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Quarrel or reprimand; 'twill soon be dark.
Up! Mind thine own aim, and God speed the mark!

—*Emerson.*

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The Clinic Publishing Co.
RAVENSWOOD STATION, CHICAGO

AUGUST ::: 1909

The American Journal of Clinical Medicine

A MONTHLY JOURNAL

DEVOTED TO ACCURACY, DEPENDABILITY AND HONESTY IN EVERY DEPARTMENT OF MEDICINE AND TO THE SAFEGUARDING OF THE DOCTOR

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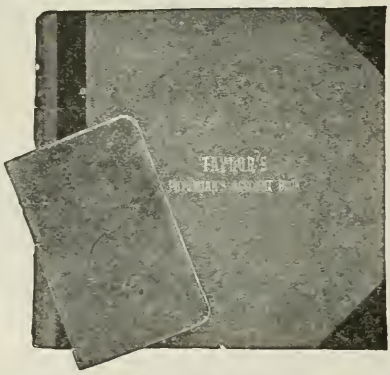

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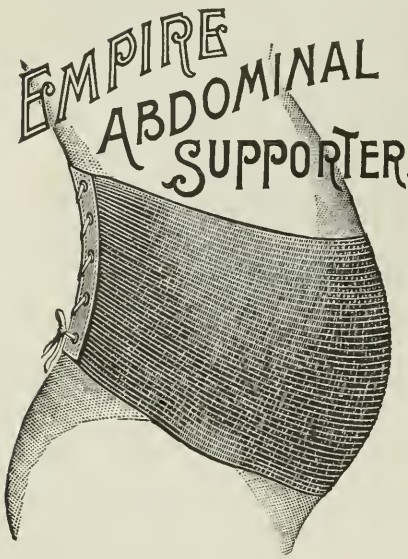

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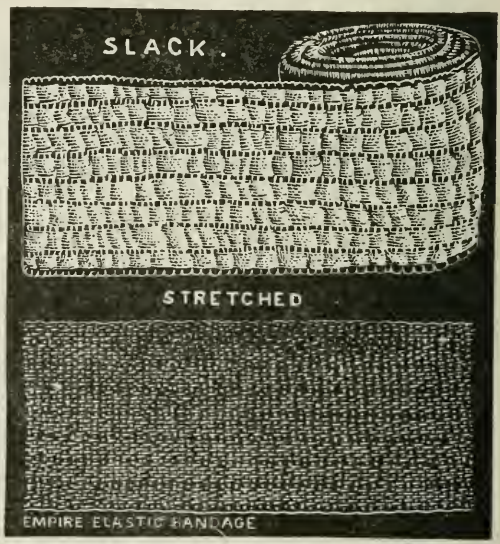

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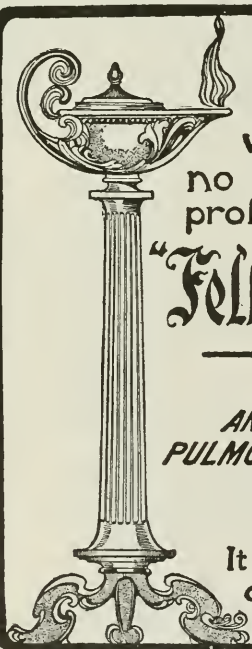

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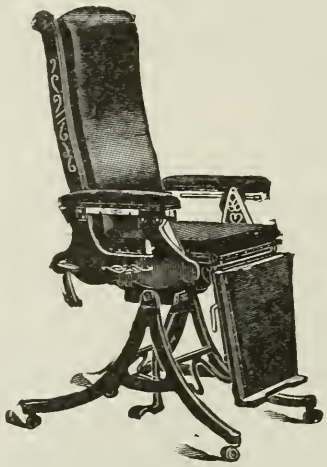

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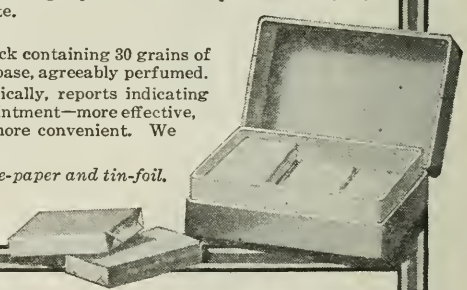

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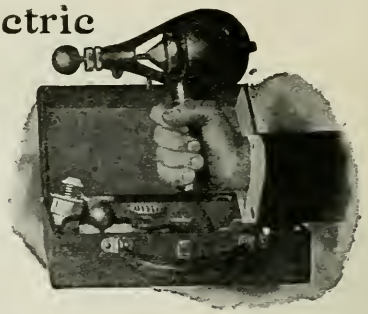

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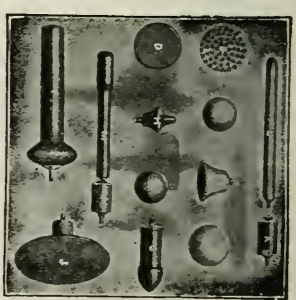

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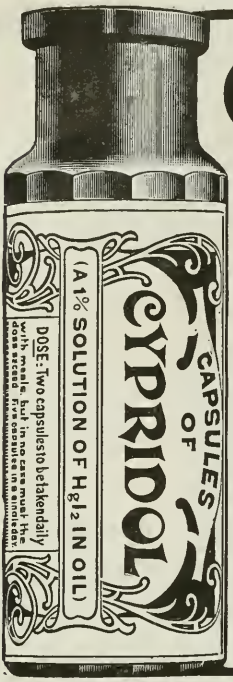
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Just views of gonorrhoea teach us that it may be treated by three methods, (1) by injections, (2) by vaccines, (3) by urethral sedatives and antiseptics given by the mouth. None of these methods excludes the other, and all may be used together.

Which place in order of merit shall be assigned to Kava Santal,—containing the resins of Kava Kava rhizomes. Without expressing our private views, it may be said that it has been brought forward by the best authority, and that, among balsams, it occupies probably the highest place. It is the natural coadjutor of injections; our notions of vaccines being wholly confused and imperfect.

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The American Journal of Clinical Medicine

Vol. 16 AUGUST, 1909 No. 8

Human Typhoid Carriers

Do you realize that one of the most frequent carriers of typhoid fever, one transcending in importance a poor water-supply, defective drains or "a plague of flies", is man himself? It is the occasional case that points the moral

IN one of the New York dailies, Dr. Park, of the New York Board of Health, gives a graphic description of the most noted of the typhoid carriers detected in recent years. This woman has been the cause of twenty-six cases of typhoid fever. Despite all the efforts that have been made to clear her alimentary canal of typhoid-fever germs, she continues to discharge them. Dr. Park says that his study of the case leads him to believe that the germs lodge in the gall-bladder, whence they are carried into the intestinal canal with the bile. While Dr. Park states that all efforts at ridding the alimentary canal of the typhoid bacilli had failed he does not tell us what this treatment has been.

Such a case as this offers an admirable opportunity to test the effectiveness of intestinal antisepsis. My suggestion is that this woman's bowel be completely and thoroughly emptied by the use of calomel and podophyllin, followed with saline laxatives. She should then be given zinc sulphocarbolate, the doses pushed up to full tolerance, or at least to a dram daily, and continued; the bowels still being kept free by laxatives, and colonic flushes containing zinc sulphocarbolate, one grain to the ounce.

But how about the infection of the biliary passages? It will be of no special advantage to keep the alimentary canal clear and aseptic if it is going to be continuously reinfected from this or similar sources, beyond the reach of any of the remedies which simply traverse the alimentary canal. Here we should take into account the action of sodium succinate. By a quarter-of-a-century's use I have firmly convinced myself that this remedy destroys infective disease in the biliary passages. Not a case of gallstone, or a case that showed the presence of bile in the urine has failed to recover under the use of this remedy.

I have long since given up any idea I may have had that it induces solution of the gall-

stones; and in truth I do not look upon this as the object of treatment, believing the disease is not the presence of the stone, which in the vast majority of instances does no harm whatever, and in fact does not manifest its presence to the patient. The disease is the infective inflammation of the biliary passages, which renders them intolerant of the presence of a calculus. This infective disease subsides under sodium succinate, when given in daily doses of one scruple, to an adult, and continued from six to twelve months.

This is the treatment I would urge in the case of this typhoid carrier, in addition to emptying and disinfecting the alimentary canal as above suggested. If any of our readers has such a case under observation and cares to accept these suggestions, we should be pleased to hear of the results.

July 4—Statistics show that we lose more fools on this day than all the other days of the year put together. This proves, by the number left in stock, that one Fourth of July per year is now inadequate, the country has grown so. —Mark Twain.

THE FINAL "E"

At the meeting of the American Medical Editors' Association at Atlantic City, the question came up as to spelling the names of alkaloids. One member defended the elision of the final "e," by stating that it was in accordance with the rules of the American Chemical Society that it should be dropped. This is also the rule in *The Journal of the American Medical Association*, and a number of others publications. *The United States Pharmacopeia*, on the other hand, retains the final "e."

Many years ago the eclectics introduced a line of alcoholic extracts. A number of these, such as podophyllin, juglandin and hydrastin, have been introduced into regular practice and are as well known as any remedies in our list. The eclectics' extract, or resinoid, aconitin, is one of these, and we take it as an example. It has been estimated that about thirty thousand physicians are or have been identified with the eclectic, physiomedical or other schools which have exhibited a partiality for vegetable remedies. Many physicians who have never been identified with any of these schools also employ to a greater or less extent this line of remedies. It is silly to ignore them. They are found in every pharmacy in the United States.

Now let us consider what would be the effect if any physician prescribed aconitine, intending to utilize the eclectic resinoid whose dose is given at 1-20 to 1-12 of a grain, and the druggist instead of this dispensed the crystalline aconitine whose dose is 1-500 to 1-300 of a grain. The result would be absolutely certain death.

It is not a question here of allegiance to any society or authority. It is not a question of simplified spelling, but a question of life or death to the patient. I submit the proposition that a physician's first duty is to his patient; and that this duty takes precedence of any code of ethics, medical society or organization, or any "authority" whatsoever. The writing of the final "e", in designating alkaloids is a useful distinction, separating them not only from the resinoids but from the glucosides. It simplifies terminology, while also rendering accidents less likely to occur. It is therefore one which should be maintained, and the societies which by dropping this final "e" have confounded these preparations indiscriminately have made a mistake, and the sooner they recognize this the better.

THE CRIMINAL AND HIS FUTURE

In *The Mission News* for June, Beverly Robinson presents a brief but highly suggestive letter on the criminal and the methods which should be employed in dealing with him. It is remarkable how little people are interested in the prevention of crime and the reform of the criminal. Scarcely a beginning has been made in the way of arousing general interest in the importance of this work. Wardens and others in charge of prisons seem to occupy themselves solely with the care and safe-keeping of the convict, without much thought as to the future, when his term has expired.

Dr. Robinson suggests that institutions to which these men are confined should be self-supporting. Those who have trades should pursue them there; those who have none should be taught. Mental instruction should also be insisted upon. Prisoners should have suitable books, and these should be aided by lectures. This instruction, he suggests, might be imparted by first-term men who are punished for a single lapse from right living.

In the state prisons of New York, efforts are made to accomplish much of what he suggests, but nothing worth mentioning has been done in the jails and penitentiaries. When criminals have served their sentence and have been released, society should see that they are afforded a proper opportunity to live honestly. As it is, this is almost impossible. The final remedy, he believes, consists mainly and above all in proper official visiting to every penal institution, modeled somewhat after that existing in charitable institutions.

CARE OF THE PREGNANT WOMAN

In a paper read before the Ramsey County Medical Society last June Prof. Frederick Leavitt made an eloquent plea for a more painstaking supervision of the pregnant woman. One especially significant paragraph we will transcribe:

"Once in a while in pregnancy the liver cannot or will not do its work properly, the kidneys become embarrassed by the extra burden thrown upon them, and in consequence of this imperfect metabolism and faulty elimination, poisonous products accumulate in the blood, that may of a sudden throw her into such a dreadful state of convulsions that death may follow before relief is found. Eclampsia and other manifestations of toxemia may be safely managed or escaped altogether if the pregnant woman receive the painstaking care for which we make this plea."

We wish earnestly to second this presentation, as also the closing remark of Dr. Leavitt's address: "In conclusion, if we would but give more attention to the period of pregnancy, watching and studying the process of the forces engaged, mental as well as physical, we should be vastly better prepared to lend a hand when the critical moment comes."

Fortune disdains mere ability—brain is nothing without bravery. The man who can be thrashed by a sneer has retreated before he was defeated. Half the new town-halls are gifts from "blamed fools" who left home because they couldn't get a sixty-horse power opportunity in a one-horse village. —Herbert Kaufman.

THE SULPHIDES IN GONORRHEA

A request came in for data concerning the use of sulphides in the various forms of gonorrheal infection. Looking over our reports we find that they date back quite a number of years. Since then but little has been said or written on this topic, and the sulphides have been obscured by the introduction of newer remedies. We wish to apply here again the tremendous powers of collective investigation, as made by the vast membership of CLINICAL MEDICINE'S clientele.

The early reports to which allusion is made go to show that gonococci can not live in a human body so saturated with sulphides that their odor is exhaled from the skin. The best results seem to be secured when about 4 centigrams of calcium sulphide and 4 milligrams of arsenic sulphide are given daily, in divided doses, saturation being induced within a week and sustained for ten to fourteen days. Much larger doses may be given with impunity. The writer has pushed calcium sulphide up to 50 grains a day without perceptible harm, immediate or remote. It is desirable to avoid the period of acid digestion during its administration, as the hydrochloric acid decomposes the sulphide and causes unpleasant gaseous eructations.

Try this treatment in acute and chronic urethral and vesical gonorrheas, and in systemic general infections such as "gonorrheal rheumatism." The writer has had no failure with the latter during twelve years; but he is only one man among you and his results may have been exceptional.

From a comparison of the results obtained from many we get a clearer idea of the truth; and by inquiry into widely differing reports we learn how and why some succeed where others fail.

We want the literal truth—without favor or prejudice.

Great Heavens! When we think of the responsibility that we incur in advocating a remedy to 40,000 physicians, when we reflect on the number of human lives that hang on our words, we the more earnestly endeavor to be absolutely fair and just, setting down the exact truth, the whole truth and nothing but the truth, and to see the truth dispassionately as a judge weighs the evidence.

We grow more solicitous with advancing years and a widening circle of influence.

Our doubts are traitors, and make us lose the good we oft might win by fearing to attempt.—Shakespeare.

REPEATED EXAMINATIONS FOR THE INSURED

In his address before the Association of Life Insurance Examiners President Burnside Foster makes the suggestion that those insured should be requested to present themselves at stated intervals for an examination similar to that given when insurance is granted.

The advantages are obvious. Disease tendencies and diseases themselves may thus be detected in their incipiency, while as yet in the curable stage. The effect of such examinations would undoubtedly be materially to prolong the life of the insured, with consequent increased emolument to the insurance company.

This suggestion is directly in line with what we have repeatedly urged upon our brethren and what we have practised ourselves for years.

Dr. Foster suggests that the company would perhaps find it advisable to share the expense with the insured. This, however, we believe would be scarcely necessary, since our experience has been that patients to whom we explain this matter welcome the suggestion to come for an overhauling once or twice a year, or even more frequently. Moreover, we have found that they willingly pay a larger fee, that this examination may be so complete as to be satisfactory to the insured as well as the physician. We are glad to see an examiner of such wide experience as Dr. Foster take up the matter and advocate it as sensibly, and, we hope, as effectively, as he has done.

EXCEPTIONAL DRUG ACTION

In *The Wisconsin Medical Journal* Kemper contributes an interesting paper entitled, "Some Exceptions to the Rules for Administration of Certain Drugs."

That opiates are dangerous to infants and children is an admitted fact, but in a case of epileptic convulsions in a child four years old he was compelled to administer morphine, gr. 1-8, hypodermically, four times within an hour before quiet was secured. Six hours later the child was sitting up, drinking milk.

In another case of convulsions, in an infant six months old, weighing not over ten pounds, chloral and bromide had been given in comparatively large doses without benefit. It then received, hypodermically, 1-4 grain of morphine within half an hour. The convulsions ceased entirely, the child went to sleep and the next morning awoke much improved.

The dangers of ergot lie in its tetanic contraction and rupture of the uterus, laceration of the mother, and infant fatality. Nevertheless small doses of ergot will stimulate normal labor-pains and will not cause convulsive contractions. The author details one case in which he administered five drops of ergot every ten minutes. Pains became strong after the third dose, when the medicine was discontinued. In another case thirty drops of ergot were given with like benefit. He says: "In conclusion I will say, I invariably carry a good specimen of ergot in my grip, which, however, I employ only when I see a clear indication for it. I believe a little more of the judicious

use of this drug and a little less of the routine instrumental interference would be greatly for the benefit of womankind."

We fully agree with Dr. Kemper in his advocacy of "a good preparation of ergot." We invariably use ergotin, and have always found it good. There is no question but Dr. Kemper is right in his assertion that this valuable remedy is often given in doses far too large.

THE EARLY DIAGNOSIS OF TUBERCULOSIS

In *The Wisconsin Medical Journal* for May, Thos. H. Hay contributes an interesting paper with the above title. This is by no means an ordinary paper, containing a digest, more or less carefully made, of the textbook items concerning the early phenomena of tuberculosis. How often, oh, how often we have gone over such articles and wondered, first, why they ever were written (unless to advertise the writers), and second, how under the shining sun they ever prevailed upon the editor to publish them.

Dr. Hay's paper is readable; it is snappy and sharp.

Speaking of the diagnostic use of tuberculin in obscure cases, when a diagnosis is otherwise uncertain, he says: "A thousand times the abdomen has been opened with less trepidation by the merest mechanic in surgery, with more danger to the patient and less justification than is exhibited in the administration of the diagnostic dose of tuberculin." "I do not believe in the ignorant incapacity or wilful indifference of the average practitioner. Many are simply lazy."

Possibly some of these socalled lazy doctors are not so much lazy as ill-endowed with cerebral capacity; and in the ordinary routine of their daily practice they have used up all the mental energy at their disposal. Then, again, Dr. Hay, as the Medical Director of the River Pines Sanatorium, may not altogether appreciate the part played by physical exhaustion in the life of the general practician, whose patients are not all under his own roof. At Brook Farm it was noted that after a full day's work, manual labor on the farm, the distinguished authors did not spend their evenings in the production of literary material. Their creative faculties lay in abeyance, and they preferred to lie on their backs and rest. Possibly if Dr. Hay went through the routine of the average practician he would not feel like working far into the night in his laboratory, and he might even find himself becoming drowsy over the latest textbooks!

The key was love; pure gold, acrust
With glittering gems of faith and trust.
It fits all doors, it turns all locks,
It leads the way through walls and rocks,
It lifts the bolt, unbars the gate,
And shows us where life's treasures wait.
—Ella Wheeler Wilcox.

"STANDARDIZED" DIGITALIS

Bulletin No. 48, issued by the Hygienic Laboratory of the Public Health and Marine Hospital, has aroused considerable interest. It is on the physiologic standardization of digitalis, and was prepared by Dr. T. W. Edmonds, of the University of Michigan, and Dr. Worth, Assistant Pharmacologist in the Hygienic Laboratory.

The investigation seems to have been quite comprehensive, the net result of which was to establish the following as the average relative strength of the preparations named, the smaller number indicating the higher value, viz.:

Mulford's digitol, 2.14.
Burroughs, Wellcome & Co'.s concentrated tincture, 2.28.
Nelson Baker & Co.'s fluid extract, 3.57.
Hance Bro's & White's fluid extract, 4.14.
Parke, Davis & Co.'s fluid extract, 4.43.
W. S. Merrill's normal tincture, 5.71.
Sharpe & Dohme's fluid extract, 6.00.
Lloyd Brothers' specific medicine, 8.28.
Parke Davis & Co.'s digitalone, 8.50.

Two preparations of digitol examined showed a variability of 30 percent. Out of three samples of digitalone two gave no digitalis action whatsoever, but were toxic from decomposition. This item is taken

not from the bulletin but from its quotation in *The Journal of the American Medical Association* for June 12.

"I've made it a practice to put all my worries down in the bottom of my heart, then set on the lid and smile." —"Mrs. Wiggs."

CONTRACT PRACTICE

The most important feature of the recent meeting of the American Academy of Medicine was the discussion on contract practice. The views expressed showed wide variance, from the different standpoints of the speakers, some seeing only the evils of low fees and unethical competition, while others advocated the method more or less openly.

A. L. Benedict did not look on it as essentially unethical, though admitting the evils of low fees, poor service and improper competition. Sheldon of Wisconsin, Partree of New Jersey, Mathews of Rhode Island and Ravogli of Ohio gave illustrations of the local aspects of the question. Mr. McManemin of Atlantic City, a lawyer and prominent fraternity man, made an excellent address in defense of the practice for lodges. The list ended with a characteristic talk from Woods Hutchinson, in which he took the ground that contract practice should be made universal. Woods thinks and talks straight, and is not fettered by any undue deference to tradition. By no means!

"Our present system of medical attendance is a makeshift and an anomaly, born in an emergency and tinkered up at odd times. It has never been properly planned out or thought through, but simply '*growed*' like Topsy. It combines the maximum of expense to the patient, and of loss by all sorts of accidents, to the doctor, with the minimum of health production and of prevention. Why not take advantage of the law of averages, both of mortality and morbidity, arrange a definite scale of fees for yearly attendance per patient and per family, and devote the best part of our energies to keeping our patients well, instead of patching them up after they have fallen sick? Said yearly fee, which could be carefully worked out by a conference of all parties concerned, and adjusted to the locality, income and social position of the patient, to include a thorough physical examination of every member of the family at least twice a year, whether they felt out of health or not; and sanitary inspection at regular intervals of the house, water supply, drainage and sewage, and conditions of places of work or study of each individual."

For years we have been affirming that preventive medicine is the medicine of the future. We have been preaching preventive medicine. We have been practising preventive medicine. In so doing we have succeeded in kicking from under our feet much of the ground on which our financial support was based and this has left us sprawling in midair. A very small modicum of common-sense would seem to indicate the wisdom of seeking to alter our financial customs to suit the changing conditions—but who ever expects common-sense from the medical profession? We make changes when we are compelled, and no sooner. It is said that some people "never take a hint until a brick house and lot falls upon them" —and we may be "some people."

Our greatest enemy today is the recrudescence of medieval superstition, under which a very large percentage of the public are now pursuing the ostrich-like policy of meeting disease by shutting their eyes and denying its existence. Under this system many thousands of individuals are passing through the early and curative stages of maladies, while structural lesions are being established and tissue destruction goes along. One of these days, as men fall out of the procession and women drop dead from disease of the heart, liver, kidneys and other organs, the question will become frequent —Why did you not attend to this long ago?

Who is to blame? We, the physicians, and nobody else.

We can not shift from our shoulders the moral responsibility. It is not enough that we, who devote our lives to the study of the human body and its functions in health and in disease, should comprehend the matter as nobody else possibly can do, but we must also convince the people that we know these

things. If with all our learning and experience we fail to convince the people of our superiority over the quacks, we brand ourselves as incompetent, and should make way for better men, of more force, men who can command respect and confidence.

It is all so easy. There are not too many doctors—there are too few to do the work. Limit each to 100 families; let the graduate take these at a dollar a month, and add a dollar for each year of his practice. He can make some exceptions, a reasonable additional fee for midwifery, and pay the patient a reasonable amount for every failure he makes, necessitating the loss of a member by surgical operation. Then the system of periodic examinations suggested by Hutchinson, and long advocated by ourselves, will serve to detect disease in its incipiency, to recognize the tendencies to degeneration in time to correct bad habits and bad hygiene. The hunt for disease causes and their eradication would assume new importance. Instead of depending on payment for attendance while the income is stopped and the expenses trebled by sickness, we have a regular income from men retained in the ranks of the workers and earners.

The constant supervision necessitated would give us such control over our families as would render the incursions of quackery impossible.

The one obstacle to the consummation of this plan is the conservatism—inertia—of ourselves.

THE TREATMENT OF DIABETES

In *The Medical Record* Rudisch contributes a brief but interesting paper on the treatment of diabetes mellitus by atropine sulphate and the methylbromide. His experiments with these drugs cover a period of 2½ years, and the results secured have been so satisfactory that he places them on record. No attempt was made to select cases. A carbohydrate diet was always given at the beginning. He sums up the action of atropine under the following heads:

1. The reduction in the amount of sugar excreted.

2. The increase of carbohydrate tolerance.

It was uniformly observed that glycosuria disappeared much more quickly under this combined treatment than with the diet alone. When the strict carbohydrate-free diet caused a marked diminution of sugar excretion, traces still remaining, the use of atropine invariably resulted in the complete suppression of glycosuria. Interruption in the administration of this drug without change of diet was followed in many cases by the reappearance of sugar, but this could always be made to disappear by resuming the atropine.

The influence of atropine in increasing carbohydrate tolerance is manifested in two ways: Some patients who had been freed from glycosuria by the diet alone had a return of glycosuria when a certain amount of carbohydrates was given, but if atropine were also administered, more carbohydrates could be given without inducing the return of the glycosuria. After the prolonged administration of atropine the tolerance of carbohydrates increases much more rapidly than after a period of antidiabetic dietary treatment alone. The appearance of glycosuria in such cases is a signal to resume the atropine.

The methylbromide of atropine has the advantage over the sulphate of being much less toxic, but its effects are not so prompt. Its cost, moreover, limits its use. The initial dose of the methylbromide for adults was 2-15 grains, *t. i. d.*, gradually increased until 8-15 grains were given. In one case three grains daily were given for a short period, causing no other ill effects than dryness of the throat.

The initial dose of atropine sulphate he places at 1-150 grain, *t. i. d.*, gradually increasing to 1-20 grain, *t. i. d.* Children require a dosage proportionate to their age. These unusually large quantities of atropine were well tolerated, providing the initial dose was small and the increase gradual. The remedy was increased until the glycosuria disappeared. With the appearance of the first toxic symptoms, usually marked dryness of the throat, the atropine was

either stopped or the attempt to increase the dosage temporarily abandoned. The drug was resumed after a period of rest.

The tolerance varied in different individuals. In no instance was an atropine habit acquired, nor were there any deleterious effects upon the general health observed from its prolonged administration.

"He who builds no castles in the air,
Builds no castles anywhere!"

DRUG FARMING

An editorial appearing in a recent number of CLINICAL MEDICINE, entitled "Buy Land," has occasioned an unusually large amount of correspondence, and this has developed one most serious omission in that effort, which we hasten to supply.

Physicians write to us from all parts of the country, asking where they should go to raise drug-plants. But why should they go anywhere? Every acre of land in this whole United States on which anything can be grown is suited to some particular kind of crop. Instead of spending money to go to a location about which one does not know anything, and to try climatic conditions which are new and have to be learned, why not take up your own neighborhood, your own soil, and ascertain what would suit it best?

A good way to do this is to take up the botany of your own farm or neighborhood, find what medicinal plants grow there naturally, and which of these shows the healthiest growth. Then get a copy of a drug journal and look over the quotations for the products of this plant. Not that you are likely to get these prices. For instance, burdock root we find quoted in *The Western Druggist* at twenty-five cents a pound, but all that a wholesale druggist would offer a correspondent was seven cents. From this one is justified in suspecting that the wholesale drug trade is a comparatively profitable enterprise. But here are a few suggestions gathered from the price-list quoted:

ROOTS

Berberis	40	cents a pound
Blue Flag	50	" "
Bryony	35	" "
Black Cohosh	15	cents a pound
Blue Cohosh	20	" "
Culver's Root	35	" "
Dandelion	30	" "
Dwarf Elder	65	" "
Elecampane	20	" "
Gelsemium	18	" "
Ginseng	$10.00	"
Golden Seal	3 00	"
Hydrangea	24	" "
Indian Turnip	34	" "
Ladies' Slipper	70	" "
Mandrake	25	" "
Nettle	24	" "
Poke	20	" "
Pond Lily	30	" "
Senega	85	" "
Skunk Cabbage	26	" "
Canada Snake Root	45	" "
Virginia Snake Root	75	" "
Solomon's Seal	35	" "
Stillingia	25	" "
Turkey Pea	$ 1.00	" "
True Unicorn	60	" "
False Unicorn	75	" "
Yellow Dock	26	" "

SEEDS

Burdock	20	" "
Larkspur	50	" "
Lobelia	60	" "
Parsley	25	" "
Pumpkin	25	" "
Stavesacre	20	" "
Stramonium	10	" "
Sunflower	10	" "
Watermelon	20	" "

BARKS

Alder	22	" "
Tag Alder	20	" "
Apple	30	" "
Black Ash	30	" "
Mountain Ash	28	" "
Barberry	30	" "
Basswood	24	" "
Bayberry	25	" "
Birch	24	" "
Black Haw	45	" "
Black Willow	18	" "
Boxwood	20	" "
Buckthorn	22	" "
Butternut	20	" "
Cotton Root	30	" "
Dogwood	20	" "
Elder	30	" "
Hemlock	20	" "
Magnolia	35	" "
Oak	22	" "
Peach	30	" "
Persimmon	30	" "
Poplar, White	20	" "
Poplar, Yellow	22	" "
Prickly Ash	30	" "
Sumac	24	" "
Tamarack	20	" "
Wahoo	35	" "
Wild Cherry	20	" "
Black Willow	22	" "

LEAVES

Arbor vitae	33	cents a pound
Blessed Thistle	33	" "
Castor	20	" "
Fern	33	" "
Hardhack	30	" "
Hemlock	30	" "
Henbane	$ 2.00	" "
Laurel	28	" "
Liverwort	30	" "
Marjoram	40	" "
Mistletoe	35	" "
Parsley	40	" "
Plantain	30	" "
Prince's Pine	30 to 40	" "
Raspberry	28	" "
Rosemary	26	" "
Sage	25	" "
Savin	28	" "
Stramonium	28	" "
Strawberry	30	" "
Sumac	30	" "
Thyme	26	" "
Uva Ursi	22	" "
Walnut	30	" "
Witch Hazel	22	" "

Twenty cents a pound means one hundred dollars a ton, so that if anything like the above price could be secured by the collector it certainly looks as though drug-farming might be profitable. But there is something more that goes with the cultivation of drug-plants than simply raising, gathering and selling them. The digitalis cultivated in Pennsylvania is considered inert. At any rate the English digitalis is quoted at $1.25 a pound, the native at 34 cents. The cultivation of any drug-plant should include such examination of its activity as would enable the farmer to produce as good an article, or better, than that already in commerce.

Johnson and Johnson have established by scientific cultivation a better belladonna than any other hitherto known, and the writer is under the impression that they have found it possible to secure better prices on the market for a correspondingly better article. It is not a very difficult matter to learn how to test the relative strength of remedies on animals, and to extract most of the alkaloids and other active principles; and since the witty author of "Pigs is Pigs" has called attention to the marvelous rate of increase of the cavy under suitable conditions, it would not be very hard to secure an ample supply of these useful little animals, with which to make physiologic tests.

If you contemplate going into drug-farming, do it right. Do not imagine that you have to move out of your present quarters, but study the flora of your own neighborhood, find out what is the most valuable, which is the best suited to the soil, and which of your native plants will command the best market and the best price. The difference between the price of hay and that of any drug-plant, even at the small price paid by the wholesalers, would seem to indicate the lucrative character of this enterprise.

If you want to find the Spring of Perpetual Youth, go and dig in the sand with the children, or hoe in the garden—then you will tap that Spring and also find a Gold Mine. —Elbert Hubbard.

THE BABY'S DIET

The baby is 14 months old—it's the first—and the young mother is anxious that it should be cared for just right, with all the light that modern science can shed upon the difficult problem. Accordingly she applied to her physician, and these were his directions:

"The principal food should still be milk, and while the child may now be able to digest cow's milk unmodified, it should still be sterilized. Cautious experimenting may be done with some of the cereals. A little stale bread may be thoroughly toasted; and this, when grated or crushed, used to thicken the milk. In like manner toasted soda crackers of the finest quality, zwieback, boiled flour-ball, rice or perhaps a little well-cooked and strained oatmeal may be tried. Not more than a teaspoonful of any one of these should be given in a day and no two on the same day. In fact it is wise to permit only one food besides milk on any one day, so that there may be no uncertainty as to what disagrees with him, should his digestion show signs of disorder. Should his strength appear below par, a little perfectly fresh raw white of egg may be added to the milk or given in cold (sterilized) water. Or the well-boiled yolk may be broken up with a spoon and fed to the child. Sometimes a teaspoonful of the red gravy in the roast-beef dish is useful, but

parents should beware of encouraging a taste for highly seasoned foods. It is a common practice to allow a child to suck the drumbone of a chicken, but this can hardly be looked on as a part of his 'diet.' As a means of keeping baby quiet it is certainly preferable to that too-common abomination, a sugar-teat.

"Fruit? Select a perfectly ripe peach, absolutely sound, and a little of the pulp may be mashed and fed to the child cautiously. Or a little of the juice pressed from carefully selected grapes may be given, perhaps a teaspoonful three times a day. However, if harm should result we must recollect that these foods were not sterilized.

"All water given baby to drink or mixed with his food should be boiled. In a word, absolute, scrupulous, surgical cleanliness should be practised in all that relates to the infant's diet during his second year—as well the first."

The advent of another child unfortunately interfered with the maternal cares, as baby had perforce to be handed over to others. The result was that, being left somewhat to himself, baby took on himself the responsibility of enlarging his dietary by adding (in one day) the following comestibles: (1) ashes; (2) garden soil; (3) sand; (4) refused grapes from the garbage heap; (5) coal; (6) green kalsomine licked from the wall; (7) sundry unknown articles discovered in the garbage can; (8) whatever else could be found in his peregrinations about the back yard and alleys and that could be gotten into his mouth; (9) plaster extracted from between the bricks of the fireplace; (10) copious refreshing draughts of the soapy water in which he had just been bathed. It is confidently believed—by his mother—that the neighbor's manure heap only attracted the baby as an exceedingly soft and pleasant place to sit down in.

The results of the doctor's carefully devised dietary proved quite satisfactory. After a week's trial without quite so much of the daily foraging, as above noted, the child was pronounced to be in perfect health, vastly improved in strength and growing fast. We commend this outline, modified to meet conditions, to the tria of other doctors.

It is astonishing with how little reading a doctor may practise medicine, but it is not astonishing how badly he may do it. —William Osler.

HOW DIURETICS ACT

In *The Old Dominion Journal* Reade advises as a diuretic mixture a combination of potassium acetate, spirit of nitrous ether and syrup of squill. He says profuse diuresis will follow its administration. The tendency of squill to cause a rise in pulse tension is checked by the nitrous ether present, and the principal contraindication is the irritating effect of squill on stomach, intestines and kidneys. This is a fair example of the ordinary type of galenic prescription. It would be interesting to know what the deviser expected from each of the ingredients of his formula.

Diuresis depends largely on vasomotor conditions. If general dropsy is present, with relaxation and permeability of the capillaries to such an extent that they have degenerated into a circulatory swamp, canalization may be effected and diuresis induced by the use of vasomotor constrictors. Here scillitin, the active principle of the squill, comes in very handily, and will prove effective without any of the irritations mentioned. Or we may use any of the digitalis series, digitoxin being especially powerful; but on account of its slowness of action apocynin is generally preferred. So effective is this agent that it has received from its admirers the appreciative title of the "vegetable trocar."

But if, on the contrary, the circulation is contracted to such an extent that the supply of blood through the renal parenchyma is too little, diuresis requires vasomotor relaxation; and we then have in glonoin, veratrine, aconitine and gelseminine remedies exactly fitted to the need. Any one of these, by relaxing the renal vessels and admitting a freer flow of blood, will induce the desired diuresis. If, however, the difficulty lies in feebleness of the heart-action,

we have two classes of cases, or perhaps three. If the heart is alone at fault, we may increase its force by the use of Germanic digitalin, or of strophanthin, which have a minimum effect on vascular contraction. If the latter is an added indication, we get both effects from apocynin and digitoxin.

Or we may combine a vascular relaxant with a cardiac tonic, and get both effects. Contradictory as this may appear, it works out in actual practice, there being, as we have often asserted, a selective action by which each remedy is taken up and assimilated by the cells which require its action to restore their physiologic equilibrium. But this is by no means the same thing as using antagonistic remedies directed to the same part. For instance, it would be somewhat difficult to state why we should use two remedies, one of which contracted the arterioles and the other relaxed them, as in Dr. Reade's prescription. The net effect here must be that of the stronger, in relative dose, minus the effect of the weaker, and it would seem preferable to give a small dose of the stronger alone.

Remedies like the oil of juniper are believed to act as diuretics by stimulating the dialyzing membrane in the malpighian glomeruli; a very uncertain and perilous form of medication, since, if the stimulation is pushed too far, it may induce such a congestion as to stop completely the action of the kidney, to the imminent peril of the patient.

When angry, count four; when very angry, swear.
—Mark Twain.

DISEASE CARRIERS

In an address at the Thirty-fifth National Conference, Walter Lindsay of Los Angeles, Cal., made some notable statements in regard to parasitic animals. He says that rats destroy grain and other products in England and Germany alone to the amount of one hundred and fifty million dollars per year. Through its flea the rat is the chief if not the only disseminator of bubonic plague. In 1904 this disease destroyed more than one million lives in India, and for ten years the average death list from this disease in that country was more than four hundred thousand per annum.

The bedbug also transmits plague, although not to such an extent as the flea.

The fly is another menace to health, carrying typhoid and tubercle bacilli and other infectious bacteria, which it distributes over our food. One investigator found one hundred thousand bacteria on the legs of one fly. Gatcham says that the house-fly kills seven thousand people annually in New York City. The great breeding place for flies is the manure pile.

The mosquito distributes elephantiasis, malaria and yellow-fever. Ayres puts the fight against the mosquito as follows: A slap of the mosquito for the moment, kerosene for the week, ditching for a season, but reclamation at all times.

The dog is especially susceptible to hydrophobia and tapeworm.

The cat is the greatest menace of all domestic animals. There is scarcely a disease she does not have. Diphtheria and ringworm are ordinarily disseminated by her. The only innocuous domestic pet is the Teddy bear.

The fly breeds in manure. This insect and many others obtain from human and animal excreta the germs of the diseases which they give us. Possibly at some long-distant period we may arrive at such a stage of civilization that every particle of the excreta from man and domestic animals will be disinfected and put to use as fertilizing material, rendering it impossible for such transfer of disease by insects to occur. Our drinking water will then cease to be polluted, and the prevalence of infectious preventable disease will be restricted.

There need, however, be no fear that, from this cause or from any other, physicians will be rendered unnecessary. As culture increases, we find more and more opportunity for wise intervention on the part of the physician. It is certain that if our profession were to do all it might for the benefit of humanity, there would be room for far

more of us than there are at present. This is illustrated by the history of dentistry. Ten dentists make a living now where one would have starved fifty years ago; not that there is any more disease of the teeth, but that people have learned to take care of their teeth.

Some day people will learn the wisdom of going to their family physician once a month for a complete examination, in order that the beginnings of diseases may be recognized at the time when they are still within the control of the skilled medical director. In all these particulars it is significant that China is ages and ages ahead of us, and while we infinitely excel the Chinese in very many ways, such as the scientific perfection of our methods, yet the utilization of fertilizing material and the employment of the physician to prevent instead of to treat disease, have been the custom in the Flowery Kingdom from time immemorial.

Debt is the disturbing rooster that perches on the ridge-pole of your house and crows loudest when you want most to sleep. —Gilhooley.

NO MORE GREEK!

In *The New Albany Medical Herald* Dr. G. H. Tichenor gives a suggestive note on medical nomenclature. In this he refers to the change in high-school and college education, involving the laying aside of the ancient languages. Latin and Greek are no longer needed for the degree of A. B., and the number of students who take these studies is decreasing. The time was when education meant proficiency in Latin and Greek. It is getting more and more to be realized that education means the fitting of the pupil for his future life-work, whatever that may be; and that an educated man must not necessarily enter one of the socalled learned professions.

While the country needs better doctors, more honest lawyers, wiser ministers, it needs still more farmers who are able to apply the laws of agricultural chemistry to farming; stock men who are accomplished veterinarians; mechanics who are thoroughly trained in the laws of physics; in fact, men who are so thoroughly trained in the special callings which they are called upon to exercise, that these may be followed in the light of knowledge and science. In the acquisition of an education of this kind Latin and Greek are by no means indispensable, and it is coming to be felt that the time devoted to their study is largely lost. Our friend, Dr. Achilles Rose of New York, will certainly dissent from this opinion. Who is right?

GLANDULAR FEVER

In *The New York State Journal of Medicine*, Dr. W. B. Garlock contributes an interesting paper on "Glandular Fever." This fever is a sporadic or epidemic infectious disease, occurring most frequently between the ages of two and ten, although it may occur in adults. The incubation period lasts six to ten days. The attack opens with general malaise and slight irritation of the nose and tonsils.

The fever may be remittent or intermittent, and is relatively high for the local malady, running from 100° to 105°F. In a day or so this is followed by swelling and tenderness of the lymphatic glands of the neck, especially the group lying under the upper part of the sternomastoid muscle, more frequently commencing on the left side. The submaxillary glands are less commonly affected. The middle ear is often affected, but not always. There is tenderness and stiffness of the neck, and some dysphagia. Occasionally other glands are involved, but it is not usual to have a general infection. After the cervical glands, the mesenteric and mediastinal glands are most likely to be affected. Sometimes the inguinal and axillary glands are involved. The spleen is large, the liver also large and tender. There is little tendency to suppuration.

The fever lasts two to ten days and is of irregular type. The glandular enlargements remain for several days after the fever subsides, the spleen and liver slowly resuming their normal size. The large daily range in the temperature is notable. Anemia, emaci-

ation and debility depend on the height and continuity of the fever.

There has recently been an epidemic, especially in the southern part of Chicago, which is supposed to have been measles. The writer saw a number of cases and heard of a number of others. In these the symptoms were typically those of glandular fever, as just described.

THE EFFECT OF NARCOSIS UPON THE BODY-TEMPERATURE

In *The Johns Hopkins Hospital Bulletin* Dr. S. Griffith Davis gives an interesting study of the effects of ether, chloroform and morphine on body-temperature, under various conditions as found during anesthesia. The following conclusions are reached in this exceedingly important study:

1. That chloroform produces a loss of body-temperature approximately equal to that produced by ether.

2. That surrounding the field of operation with wet towels will very greatly increase the loss of body-temperature and should therefore be studiously avoided.

3. That the loss of temperature produced by ether narcosis will not be greatly increased by the preliminary administration of a moderate dose of morphine.

4. That the excessive application of heat to an individual while under the influence of morphine will lessen the usual loss of body-temperature from this drug, and that the additional administration of ether under these circumstances may lead to a rise in body-temperature rather than the expected fall.

5. That warming the ether vapor before inhalation will likewise prevent the loss of body-temperature, or may actually increase it in a degree proportionate to the temperature of the vapor and also to that of the operating room. And undue elevation of the body-temperature from this source is doubtless injurious; the object should be to maintain an even temperature.

6. That in a human patient kept warm and dry during anesthesia the loss of temperature will be very much less than when the body is wet and exposed; and, further, the fall in temperature is less under ordinary conditions of anesthesia in a room with a temperature above 26.6° C. (80° F.) than in a room of a lower temperature.

7. That patients consequently should not only be kept dry and warm, but should be anesthetized in a room free from draughts and should not be transferred to a cold room even after the anesthetic is discontinued.

8. That with such profound variations in body-temperature as have been observed, with many of the patients complaining of being cold even after they have been returned to their beds, it perhaps is not surprising that postanesthetic pulmonary complications are not uncommon.

This study should be completed by a similar observation on patients under the influence of a hyoscine and morphine combination by itself, with chloroform and with ether.

Content is the mortal foe of success—it is the moth that corrodes endeavor, the rust that clogs the wheel of Progress. —G. Frank Lydston.

QUININE IN MALARIA

In *Folia Therapeutica*, Ziemann treats of the mode of employment of quinine in malaria. Of the numerous quinine preparations six have gained commendation: the pure alkaloid, quinine hydrochloride, quinine carbamide dichloride (quinine and urea hydrochloride), quinine bisulphate, quinine tannate, and the synthetic euquinine (ethylcarbonic ester of quinine). All these must be introduced into the stomach in an easily soluble form which guarantees the quickest absorption.

The best way is to take the dose of quinine in water to which has been added five or ten drops of hydrochloric acid. Euquinine has the least unpleasant taste, the others causing repugnance. This may be avoided by swallowing the tablet or enclosing the salt in gelatin capsules, with chocolate, or with wafer paper.

Quinine is better tolerated if given during the nonfebrile period. In dealing with

pernicious malaria, however, we cannot wait for this, and in fact there may not be any apyrexial period whatsoever. Nocht recommends that the dose of one Gram should be divided into five parts and administered at intervals during the day.

Ziemann prefers in recent pernicious types, to inject the drug hypodermically, and for this reason selects the most soluble preparation of quinine, the carbamidated dihydrochloride (soluble in 50 percent water, and containing 70 percent quinine). When this is employed subcutaneously necrosis of the skin at the seat of injection may follow. He accordingly advises that it be injected intramuscularly.

This method has been tried in thousands of instances and has been followed by splendid success. A Ricord syringe containing 4 centimeters and a canula is boiled in a test-tube, the opening directed downward. The water is poured off, the syringe removed with a pair of sterile forceps and the canula applied. Then a sealed glass tube containing one dram of quinine dihydrochloride in 15 minims of water is broken at the apex and the contents sucked up by the canula. Next 3 cubic centimeters of sterile water are sucked up at a temperature of about 40° C. The quinine solution is then mixed by raising and depressing the syringe, the piston is pushed in till the quinine solution begins to issue from the canula, and the whole contents of the syringe introduced vertically into the middle of one of the gluteus maximus muscles, the area of injection having been previously disinfected. The mid-area between the trochanter major and the tuber ischii should be carefully avoided so as not to strike the sciatic nerve. Only very rarely does this give rise to a slight burning at the seat of injection, and this speedily disappears.

Quinine thus introduced acts promptly and powerfully. Ziemann has used this method even in little children. Altogether, the results have been brilliant. Relapses have been very rare, even when the drug has been given by mouth. When the latter mode of administration must be applied, he gives the quinine in a mixture containing chloroform, gum and sugar; and this would be retained when otherwise the drug would be rejected.

The administration of quinine by the rectum is liable to produce vomiting. By the skin it is too uncertain in action.

The failures that you deemed were near,
The trials and the tribulations—
Calamities you'd cause to fear,
You thought from all the indications!
You worried early, worried late;
The trouble would your soul appall.
It did seem tough to contemplate.
It never happened, though, at all.

IS NUCLEIN A CATHARTIC?

In the new work on cancer gotten out by Keith (published by Macmillan) on page 66, we note the following singular statement: "Nuclein had an extraordinary effect on him. After the first dose, which was given hypodermically some time in the morning, the bowels began to move after getting into bed about ten o'clock. The nuclein afterwards always tended to move the bowels."

Have any of our readers had any experience of this sort with the administration of nuclein? The point is a new one with us. This was a case of a man seventy-five years of age, suffering from cancer of the rectum, inoperable, the bowel almost closed by a large cauliflower mass, and the patient was unable to pass any but fluid motions. A colotomy really was absolutely indicated. In ten weeks, after twenty-seven injections, the patient's weight had increased by twenty-three pounds, while now the finger could be passed through the growth. This man died as the result of an accident, death being not in any way due to the cancer, which had steadily decreased in size.

We need more clinical studies of this kind—studies which will enlighten us as to the action of this and many other remedies upon all the body-functions. What an enormous field lies before us! How we long to inspire every reader of CLINICAL MEDICINE with its importance and enlist them in the work!

The Therapeutic Indications in Albuminuria

Albuminuria may be due to many causes and occur in many different conditions, and there is a corresponding variability in the remedies required. This paper will aid in the selection of suitable remedial agents

By WILLIAM F. WAUGH, A. M., M. D., Chicago, Illinois

TO those who would look upon the determination of albuminuria as in itself a diagnosis of any case I would commend a study of the article published by Fiessinger in *Mementos Therapeutiques des Practiciens.*

Fiessinger divides tubercular albuminuria into that accompanying nephritis due to tuberculin, and the form which is associated with primary tuberculosis of the kidney. Of the former some cases improve under milk diet, but many more are aggravated by it. Of the second form some call for surgical intervention. In other cases we may hope for recovery under medical treatment. The acute tuberculous nephritis described by Lavenant is amenable to milk diet. The onset resembles an attack of influenza, there is pulmonary congestion with albuminuria and hematuria. This is distinguished from ordinary acute nephritis by the presence of polyuria and the persistence of the hematuria. The affection tends to become chronic, to merge into surgical tuberculosis, or to end in death from visceral or pulmonary edema.

Treatment of Tubercular Albuminuria

Fiessinger treats these cases by the milk diet, diuretic infusions and wet-cups over the kidneys frequently repeated; the diet being more liberal as the fever subsides. Salt is strictly forbidden. Care is given to the skin and the bowels, and the personal hygiene is carefully regulated. Rest is requisite as long as hematuria endures.

The prognosis is grave. Surgical intervention is too risky. Uremia is uncommon. Sometimes the milk diet weakens the patient and favors the progress of tuberculosis, especially in children of tuberculous parents. Albuminuria is intermittent; the urine shows high specific gravity; the general health fails; the patient loses weight until unmistakable signs of pulmonary tuberculosis make their appearance, the albuminuria then ceases and does not recur as a rule.

In other cases, in adults, the patients feel weak and uncomfortable; digestion is impeded, headache is common. The urine contains albumin. Pulmonary tuberculosis follows. These cases require a tonic, strengthening regimen. Milk should be taken between meals, these consisting of eggs, meat and vegetables. Fiessinger administers a solution of phosphate, bicarbonate and sulphate of sodium, one dram each of the first and second, half a dram of the third, in a quart of Evian water, four ounces being taken warm on rising, 3 1-2 ounces at 10 a. m. and at 4 and 9 p. m. When the stomach has become normal he gives arsenic and calcium phosphate on Ferrier's plan. The

initial stage of this form of tuberculosis is marked by hematuria without obvious cause, persisting at rest and lessening without obvious reason; lumbar pain aggravated by walking, giving rise to crises simulating nephritic colic, pollakiuria and cystalgia. The kidney may be enlarged as shown by palpation and the painful spots of ureteropyelitis are present. The urine is purulent and contains blood, urinary casts and tubercle bacilli. Positive results follow the inoculation of the cavy. It is exceptional for these patients to recover; they succumb to hectic and cachexia.

In this form of albuminuria we would especially urge careful attention to the alimentary canal, keeping it clear, rendering it aseptic by the use of calcium sulphocarbolate, while we attempt to influence beneficially the condition of the kidneys by the administration of the oil of erigeron or of eucalyptus. I have repeatedly seen hematuria, of unknown origin in some cases and undoubtedly tuberculous in others, clear up under the influence of one or the other of these remedies. If we were less pessimistic in regard to these cases, I am confident we should secure more cures. Five drops of either of these oils should be given in capsule every four hours.

Syphilitic Albuminuria

This may occur in the secondary or tertiary stage. It is liable to occur during the third or fourth month when the secondary symptoms are well developed. It may begin acutely. The amount of albumin in the urine is very large. The disease may run a rapid course, the patient dying of uremia, or it may improve and disappear. In the worst cases with intense albuminuria, general edema and rapid renal epithelium destruction, mercury aggravates the symptoms, increasing the albuminuria. Mosny reported a case where the patient was made worse by mercury, who recovered under potassium iodide in large doses.

In grave cases it is better to refrain from mercury, the patient being placed on milk diet and kept in bed. Siredey advises that if there is no lessening of albuminuria after eight days of this treatment a soluble salt of mercury should be injected hypodermically. If the albuminuria increases, however, this must be discontinued; if stationary or lessened it should be continued. While in secondary syphilitic nephritis there is always the possibility of a superadded infection, in tertiary forms another factor intervenes and we may have renal sclerosis, when mercury is badly borne. Fiessinger says in every old case in which there is high arterial tension the patient is better without mercury. The damage to the kidneys is parasyphilitic, and mercury does not benefit it, but tends to make matters worse by inducing edema.

In Cases of Visceral Tertiary Syphilis

Levy-Frankel reported a hepatorenal form of tertiary syphilis with albuminuria, enlarged, hard, painful liver, ascites, and possibly jaundice, without high vascular tension. In such cases success might follow mercury, after the saltless milk diet with theobromine for two to three weeks.

In these cases we may justly have recourse to the iodides and the vegetable antisyphilitics. It is a mistake to look upon the latter as of no consequence. Long experience in the use of such preparations as the iodide of arsenic and of iodoform, given with stillingin and phytolaccin, have convinced me of the efficacy of such combinations in many forms of syphilis. They would be of especial value in syphilitic forms of albuminuria. Arsenic iodide should be given in doses of a milligram three to six times a day, the dose being pushed up until irritation of the eyelids warns us that it should be somewhat lessened, and then continued. Of stillingin or phytolaccin one grain a day, divided, is a good average dose. As these remedies should be continued for months, it is not wise to push them to full effect, since the digestion may be thus upset and we be compelled to forego the advantages of these valuable agents.

In cases characterized by a tendency to breaking down of the tissues iodized calcium should prove of inestimable advantage while, if the stomach is irritable, iodoform, in doses of 1-6 grain three to six times a day, is effective locally as well as constitutionally. In

such cases also an occasional hypodermic of pilocarpine enough to cause free sweating should prove of value, clearing out of the system the toxins that are loosened and thrown into the circulation by other remedies.

Exogenous Toxic Albuminuria

This constitutes a well-marked group. It is due to the irritation of the kidneys by mercury, lead, arsenic, phosphorus, cantharides, carbon monoxide, the balsams and other drugs. It may be acute or chronic, the former following the ingestion of large doses of the poison. The anuria may then be absolute. This not infrequently follows the use of mercury in large doses. Before using these the state of the kidneys should always be investigated, and the vascular tension determined. The anuria is mechanical, the tubules being obstructed by disintegrating epithelium. This must be washed out by an abundant flow of water. Castaigne in one such case withdrew from the peritoneal cavity every day a quantity of the liquid and injected a quart of boiled water in its place, to stimulate elimination; the patient recovering after eighteen days' anuria. Albuminuria has been caused by cantharides employed in infectious maladies entailing renal lesions. It runs a rapid course as a rule. The diet of water or milk and water, with rest, constitutes the treatment.

Albuminuria from phosphorus presents very scanty, bloody urine, or complete anuria. There are other signs of phosphorus poisoning, including diarrhea, vomiting, jaundice and nervous disturbances. The stomach should be emptied, washed out, the patient put on water, and later on the milk-and-water diet. Oil of turpentine may possibly be used.

Arsenical albuminuria may be acute or chronic. The water or milk diet is indicated, with calcined magnesia and hydrated sesquioxide of iron. Chronic forms require the milk, vegetable and salt-free diet. The chronic forms are generally due to lead or to mercury. Tobacco and alcohol have been blamed as causing chronic albuminuria, but this question is unsettled. Fiessinger found early signs of renal insufficiency in lead poisoning, with arterial tension and headache, accompanying albuminuria. The treatment is prophylactic and hygienic—cleanliness and bathing; dietetic—the use of milk; and purgatives, with small doses of an iodide.

Here we may expect better results from the use of calx iodata and iodoform than from potassium iodide. Ammonium iodide would also probably exert a greater action than the potassium salt. Either should be given to full toleration; as the action is chemical it is an object to wash out the poisons from the system as rapidly as possible.

Guerin states that chronic mercurial albuminuria is quite frequent. He questions the propriety of saturating with mercury old syphilitics, and ataxics and paralytics with syphilitic history. The older physicians in such cases combined guaiacum with the use of mercury in order to increase the elimination through the kidneys.

Endogenous Toxic Albuminuria

This follows disturbance of nutrition, either direct or provoked by physiologic or pathologic conditions associated with arthritism, gout, diabetes, pregnancy, dermatoses or burns. It may also be due to hepatic or digestive disturbances, cachexias, such as cancer, and overwork; to infections, beginning in the mouth, intestines or biliary canals. Overstrain acts by toxic products, and opens the door to infection, placing the organism in a state of defective resistance.

Nephritis from cold is nearly always infective, the entrance of the microorganism being generally the tonsil. It is sometimes epidemic or contagious. The albuminurias of pregnancy and of diabetes often associate infection with autointoxication. In arthritis and gout the toxic element appears to play a preponderating part. Here we have a very little albumin without high vascular tension. Uric and oxalic acids and phosphates are increased, the other constituents of the urine remaining normal. These patients are subject to attacks of migraines, cutaneous eruptions, gastrointestinal disturbances, fatigue, lassitude and headache, which are consequent upon digestive troubles. Neu-

rasthenia is sometimes present, being closely related to arthritis.

These disorders may be controlled by strict vegetable diet, a little meat being allowed at most once a day. Sodium sulphate should be taken every morning for twenty days, followed by exercise. The milk diet is unnecessary.

Phosphatic albuminuria is sometimes tuberculous, at others neurasthenic, dyspeptic or arthritic. To the latter may be ascribed the intermittent albuminuria met in the young with digestive troubles and renal weakness, but without nephritis.

Cholemic and Cyclic Albuminuria

Cholemic and cyclic albuminuria are associated with undue functional activity of the liver. The excessive discharge of bile irritates the kidney, which permits albumen to pass. This disappears when the liver is restored to normal. Angiocholitis of intestinal origin may be present. The treatment advised is milk diet, but not in intermittent albuminuria. Sodium succinate, 5 grains four times a day, would be usefully given in such cases, while the removal of fecal collections from the lower bowel aids in restoring the flow of bile to the natural channels. Cold enemas powerfully stimulate contraction of the biliary passages and expulsion of obstructing matter therein.

In arthritic subjects the lessening of obesity generally induces improvement as to the heart and the kidneys. These troubles subside under the saltless milk diet. De Grandmasion showed that interstitial nephritis is rare in the gouty, contrary to the usual opinion. These patients cannot tolerate milk diet, which enhances intestinal fermentation and induces weakness. For these patients Fiessinger advises three meals a day, the breakfast being the largest. For this he gives milk or *cafe au lait*, but neither coffee, cocoa or chocolate. At midday four ounces of meat, fish cooked in vegetable soup, green vegetables other than spinach and sorrel, acid fruits. For supper, vegetable soup, eggs, alimentary pastes, vegetables and fruit. The patient should eat slowly, use suitable exercise and hygienic regimen generally. For hypertension he gives theobromine, also sodium sulphate each morning, with colchicine if occasional attacks of gout are still liable to occur.

Various Forms of Diabetic Albuminuria

Diabetic albuminuria may be divided into functional forms, those with renal lesions, and those dependent upon complications, such as tuberculosis or other infections. The first form simply requires the usual diabetic regimen. Antipyrin should not be used, especially if vascular tension is high, its place being taken by sodium arsenate and codeine. When renal lesions are present, the milk diet, theobromine and digitalin, in doses of 1-500 of a grain, are indicated; especially with edema, oliguria, oppression, and *bruit de galop*. The use of salt must be reduced. The practician must feel his way, making frequent analyses of the urine. In albuminuria consequent upon diabetic complications, there is no special indication beyond the treatment of the latter.

The Albuminuria of Pregnancy

The albuminuria of pregnancy may be divided into infective and toxic forms, the latter due to hepatotoxemia. The treatment is the same. The milk diet is indispensable. If edema occurs, the patient must be put on water diet, followed by milk-and-water, and finally pure milk. Later, when improved, we may institute the saltless diet, but the percentage of albumen should be determined at least once a week. Threatened eclampsia requires wet-cups or venesection. Abortion and hemorrhages are very likely to occur. The intestinal function must be carefully regulated. Besides these, we have the albumen of labor and of the puerperal state, the latter being infective, and the pyelonephritis of gravidity.

In albuminuria dependent on dermatoses and burns, we have suppression of the cutaneous functions, resulting in autointoxication, also the possibility of various infections through the skin or the intestines. The skin should be treated antiseptically, with rest and milk diet. In eczema the parts must be kept scrupulously clean, and it must

not be too rapidly depressed. Old eczemas can only be cured without risk by suitable regimen, to be persevered in for a long time. Fiessinger advises sodium sulphate and bicarbonate, to be taken daily for four to six weeks, and resumed after two weeks' intervals.

Other infectious albuminurias are those consequent on scarlatina, influenza, typhoid fever, pneumonia, diphtheria, cholera, articular rheumatism and mumps. Fiessinger thinks scarlatinal nephritis a disease distinct from scarlatina, since the former may be transmitted from patient to patient without any affection of the skin. The most careful antisepsis of the nose, mouth and throat is indispensable in every case of scarlet-fever. The saltless diet, as soon as the fever subsides, is followed by freer elimination of urea and shorter convalescence, without risk of albuminuria, according to Pater.

I have found salicylic acid especially valuable as a local remedy for the nose, mouth and throat in scarlet-fever, using a saturated solution freely and often. The milk diet should be maintained for twenty days, followed by the milk-vegetable diet for another three weeks, according to Combe.

Scarlatinal Albuminuria

The early albuminuria occurring at the onset of scarlet-fever disappears in a few days under appropriate treatment. That form which comes with edema, two or three weeks after the beginning of the attack, with fever, lumbar pain, headache, vomiting, scanty, smoky urine, edema, oppression and diarrhea, often is fatal. The treatment is that of acute nephritis; rest in bed, milk diet, water diet if necessary; intestinal irrigation, wet-cups, purgatives other than calomel, followed by theobromine when the acute symptoms are subsiding. It does not tend to become chronic if properly treated.

Fiessinger advises the following diet in chronic nephritis: For breakfast and tea, twelve ounces of milk and not more than two ounces of saltless bread. At midday, six ounces of saltless meat, half a pound of vegetables without salt, or cooked fruit, two and one-half ounces of bread, three ounces of claret or six ounces of water. For dinner, any milk soup sweetened with corn flour, two eggs, two ounces of bread, with water as a beverage. A little salt may be allowed as the symptoms improve. The urine must be examined frequently and a watch maintained for edema, dyspnea or oppression, or increase of weight. Too much liquid must not be given, as vascular plethora may be increased and an additional burden thrown on the heart and kidneys. With less liquid we ought to get freer diuresis. The treatment may be completed by one or two days' milk diet every week.

Bad results have followed the administration of cantharides and the decoction of pigs' kidneys, although good results are claimed for the latter in epithelial nephritis if the heart is in good working order. Theobromine, digitalin and caffeine are the best drugs in these cases, especially if the heart is ffected.

Theobromine may be given in cases with edema and oppression, in doses of 8 grains two or three times a day for two or three weeks. Digitalin is given in 1-200-grain doses of the crystallized form, for twelve consecutive days. It may be combined with theobromine. This yields very good results. Caffeine in 4-grain doses is the heroic remedy at the terminal stage.

The Albuminuria of Some Acute Infections

Influenzal albuminuria may appear in the fugitive form, with no other symptoms, as a hemorrhagic nephritis without edema but with constitutional symptoms, or as nephritis supervening with edema at any period after the onset of the attack or during convalescence, with the usual symptoms.

Typhoid albuminuria as a rule is of brief duration and devoid of gravity, but this is not always the case. Grave symptoms may occur early—acute nephritis with hematuria, vomiting, diarrhea, delirium, Cheyne-Stokes breathing, cardiac dilatation, renal suppuration, etc.

Albuminuria of pneumonia rarely presents any distinctive features. It rarely becomes chronic. That form associated with diphtheria calls for antitoxin, which Fiessinger

believes does not induce or aggravate nephritis.

Albuminuria of cholera may be mechanical or infective. The tubes are blocked with exudation products, requiring plenty of water to flush them. Those who drink most water are those who usually recover.

Gonorrhea may be complicated with nephritis and pyelonephritis. We may have hematuria or hemoglobinuria during the acute stage of malaria. Quinine hemoglobinuria may, according to Vincent, be averted by the previous administration of 60 to 90 grains of calcium chloride, in subjects predisposed.

Nervous Albuminuria

Nervous albuminuria may cause embarrassment. In epileptics and subjects of cerebral hemorrhage with albuminuria, we have to ask whether the latter is the cause or the consequence. If vascular tension is high we must use venesection, with purgatives and the milk-vegetable saltless diet. Not more than two pints of fluid should be allowed in twenty-four hours, to keep down tension.

In epilepsy, should albumen only occur after convulsions, nothing is to be done. If albuminuria occurs in the intervals we take the vascular tension as our guide, with a *bruit de galop* and minor signs of Bright's disease discoverable. Venesection and milk-and-water diet should be prescribed if uremia threatens. The albuminuria accompanying hysterical convulsions may be identified by the low vascular tension and other well-known signs of hysteria. Occurring with Graves' disease, general paralysis and locomotor ataxia, albuminuria presents no features of special interest. The treatment must be directed to the original affection.

In general paralysis or ataxia we must endeavor to find whether the albuminuria is nervous, syphilitic or renal. Neurasthenic forms may be due to some disturbance of the central nervous system, to phosphatic disassimilation, gastrointestinal or hepatic disturbances. We may be compelled to fall back on a diagnosis of nervous albuminuria when careful investigation fails to reveal any other possible cause. Here attention is to be given to the neurasthenia, disregarding the albuminuria. When some albuminuria remains after an infective nephritis has subsided, Fiessinger attributes it to nervous causes. Other cases occur in albuminurics of over fifty, apparently renal. They do not present high arterial tension, but rather hypotension, while the coefficient of oxidized nitrogen (85 percent) is normal. This is often connected with the neuroarthritic state, with no renal lesion.

Phosphatic Albuminuria

Phosphatic albuminuria is not necessarily nephritic, but may depend on tuberculosis, on digestive disturbance, overwork or dietetic excesses. Gastrointestinal nervous albuminuria may not always justify a good prognosis. Confirmed nephritis may result, according to Castaigne, from the intoxication and fermentation in the digestive tract. Here we have a confirmation of the justness of our position in insisting on the importance of keeping the alimentary canal clear and aseptic.

Hepatic and cyclic albuminurias have an indirect nervous origin, being favored by weakness of the kidneys, biliary infection consequent upon autointoxication, and intestinal fermentation, with an arthritic or gouty heredity.

Albuminuria following peripheral stimulation or irritation may be due both to the stimulation and the toxic, or infective, action.

Mechanical Albuminuria

This is set up by circulatory stasis, due to primary heart affections or dilation consequent on pulmonary or other disease. In aortic insufficiency septic embolism of the kidneys may induce a septic albuminuria. This may be tuberculous. When the kidney is involved first, as in Huchard's arteriocardiopathies, this has nothing to do with stasis, but is an albuminuria from a renal lesion. There is then heightened arterial tension, *bruit de galop*, tachycardia, vertigo epistaxis and minor signs of nephritis. The treatment consists in saltless or milk-vege-

tarian diet with not more than two or three pints of fluid per day.

Theobromine may be used to combat hypertension. For threatened uremia, water or milk-and-water diet, in connection with daily purgation with sodium sulphate taken in the morning. In gouty subjects colchicine may be ordered, this reducing vascular pressure. With a failing heart we order digitalin. If corpulent, it is well to prescribe the treatment of that condition, under the influence of which the symptoms often clear up. Under the digitalin-theobromine treatment we frequently get, if not a cure, at least such improvement that the patients may resume their ordinary avocations for a long period.

Static Albuminuria

When patients suffer dyspnea, oppression, and albuminuria, we must not conclude that nephritis is present without examining the heart. Dilatation or a murmur may throw a light on the cause, the albuminuria subsiding under the influence of digitalin, rest in bed and the milk diet. If albuminuria persists, we may ask whether the case is not renal. Castaigne suggests that stasis, *per se*, may cause such lesions; or an infective or toxic cause may determine the nephritis.

Orthostatic albuminuria is still much discussed. Fiessinger thinks the case one of a renal lesion, and only revealing its existence on exercise. Renal lesions are aggravated by the erect position, this increasing congestion of the organ. Castaigne classes orthostatic albuminuria as: (a) typical nephritis, the albuminuria being aggravated by the erect position; (b) pyrexial albuminuria of renal origin, manifesting itself at the end of the acute stage or during convalescence; (c) orthostatic albuminuria following infective disease or previously existing nephritis; (d) a form apparently functional, but upon more complete examination by cryoscopy and methylene-blue being discovered to depend upon an organic lesion; and finally (e) a form occurring without anterior nephritis and not associated with renal inadequacy. Here Castaigne points to the peculiar fragility of the renal epithelium and the renal debility.

All these require special diet and hygiene, the diet being mainly milk and vegetables. Not more than two or three eggs a day should be allowed, with meat or fish at lunch, with very little salt, wine or coffee. The patients must wear flannel next to the skin, and avoid exposure to chill. Dry-rubbing every day. They should not take high game or meat, highly spiced dishes or shellfish. The bowels should be kept open. A season's sojourn at an alkaline spring is advisable.

Calculous Albuminuria

This depends upon irritation of the renal parenchyma by calculi. The urine is scanty and acid, albuminuria not very pronounced; there may be erythrocytes and fibrinous clots. The patient often complains of lumbar, urethral and vesical pain, with tender spots along the urethra. For these we may order solvents of uric acid, such as calcium carbonate, but avoid the use of too much alkali, since the phosphates may be precipitated and the size of the calculus increased. Surgical intervention sometimes is necessary.

In the treatment of all these forms of albuminuria we should remember the beneficial effects of arbutin, when given in small doses and continued for many months, resulting in gradually subduing irritability along the urinary course and checking the loss of albumen, should this be serious enough to weaken the patient. The regulation of vascular tension is also a matter of primary interest, and this may be reduced to normal and held there by the administration of veratrine, aconitine or gelseminine, whichever seems best suited to each particular case. By the use of one or the other of these remedies vascular tension, when excessive, may be reduced to the normal point, and held there for an unlimited time, without the slightest harm resulting to the patient.

The effect of either drug when given in such doses is strengthening to the heart rather than otherwise, conserving its energies by reducing vascular tension and relieving it of a part of its work; and also by clearing impurities out of the blood, supplying to it a better, purer, nutritive fluid for its own nutrition. When the heart is weak and re-

quires to be strengthened, it is wise to use the nonastringent heart tonics. It is obvious that stimulating the heart with digitoxin, while at the same time we are contracting the terminal arterioles, must only lead to rapid exhaustion of its powers. The Germanic digitalin, from which we get a maximum of the heart-tonic effect with the minimum of vascular contraction, is to be preferred.

In many of these cases, however, it will be found that cactin is a better remedy, especially in those forms where the symptoms may be ascribed in large part to nervous disorders, and where edema and cyanosis are not present in any such degree as to indicate the necessity of the powerful cardiac tonic properties of digitalin.

In other cases, where there is some degree of dropsy present, especially in patients over fifty years of age, and where the indication is to regulate the function of the heart rather than to apply a powerful tonic to it, I find sparteine an admirably potent remedy for long administration.

Fecal Toxemia Always to Be Considered

In all forms of albuminuria it is of the very first importance that we do not add to the other elements of the disease that of fecal toxemia, from the retention, decomposition and absorption of fecal products into the circulation. In speaking of the milk diet, it must be recollected that its value comes from its use as an exclusive food. No more serious mistake can be made than the idea that we are using the milk diet when we simply add the use of milk to the other food. Milk may be used in its natural form, but in general the fat is objectionable and should be removed; skimmed milk, whey, from which the casein has been removed, buttermilk, junket; or perhaps it will be found that better than all of these is milk soured with the aid of the Bulgarian ferment. All of these are well tolerated by the patient. It is well to use one or the other alone so as to afford a certain variety, when this diet has to be continued for some time. If at the end of a week the patient has become tired of sweet milk, let him use buttermilk, in a few days more changing to one of the other forms; and thus, whenever he begins to complain of one let him use another. For this reason he should not use more than one form at a time; as, if he uses several in a day, he will tire of all three as soon as he would of one alone.

The fresh-fruit juices are also of inestimable advantage in these cases. The very large doses of theobromine and caffeine recommended are, I believe, a mistake. Better results will follow small doses frequently repeated, and stopped as soon as the desirable effects are secured, rather than bulky doses once or twice a day. In the latter case we have overstimulation, followed by a period of depression, which is always inadvisable. In the other we get exactly the effect we want and which we may then maintain by the variation of our doses. One centigram repeated every hour till effect is a good dosage for any caffeine salt but the arsenate.

In conclusion I will state that many of the quotations here made are taken from *Le Monde Medical*, May, 1909, to which credit is hereby given.

Facts About Infant Feeding

In the summer, especially, it is of the utmost importance that the little ones be properly fed, and that milk, when used for food, shall be of good quality and germ-free. This article gives simple helps to that end

By J. WILLIAM WATSON, M. D., South Braintree, Massachusetts

EROSS has shown that about 10 percent of all the infants die during the first four weeks of life, and about 25 percent die during the first year. The greater number of these deaths is due to disease of the gastric-enteric and the pulmonary tracts, the former being due to improper feeding. Some authorities state that about 50 percent die in childhood, thus leaving only 25 percent of all children born to grow up to a life of usefulness.

Every single life is sacred to the conscientious physician. Hence it would appear that preventive medicine finds no more promising field than the prevention of disease in childhood. The prophylaxis here aims at the solution of two distinct problems: (1) The removal of causes that interfere with growth and development. (2) The prevention of infection. Under the former we have the fundamental principle of infant feeding and hygiene. Under the latter we have the subjects of quarantine, disinfection and sanitation.

Since improper feeding, as we have seen, is a leading cause in infant mortality, it behooves us to consider carefully the matter of diet. Of course, the best diet for an infant is the natural one, that is, its mother's milk, especially so if she be a healthy woman. In the latter case it is a natural and a moral obligation for her to nurse her child. She can modify her milk by her diet and methods of living.

To the mother herself nursing is beneficial because of the close relation subsisting between the mammæ and the genital organs, causing a proper involution of the womb to take place after the termination of pregnancy and hence preventing inflammations and malpositions of various kinds. However beneficial this may be, yet we find in private practice that not one-third of the mothers have been able, though willing, to nurse their infants. This being so, it becomes necessary to adopt some artificial methods of producing a diet suitable to the baby's needs. With this a physician has to use a great deal of judgment.

In Dr. Griffith's "Aphorisms" and Holt's percentage tables the writer has found a very practical method of food modification. It is called the percentage plan. He uses the following table:

PERCENTAGE FORMULAE FOR INFANT FEEDING

No.	Age	Fat Percent	Sugar Percent	Proteids Percent	No. of nursings	Daily amount	Remarks
1.	1- 2 days	0.0	5.0	0.0	6	4- 8 ozs.	Five to 10 percent of these amounts
2.	3- 4 "	2.0	6.0	0.6	10	10-15 "	should be lime water.
3.	2- 4 weeks	2.5	6.0	0.8	10	20-30 "	
4.	1- 3 months	3.0	6.0	1.0	8	22-36 "	
5.	3- 5 "	3.5	6.0	1.3	7	28-38 "	
6.	5- 6 "	4.0	7.0	1.5	6	32-38 "	Normal woman's milk.
7.	6- 9 "	4.0	7.0	2.0	6	34-42 "	
8.	9-12 "	4.0	6.0	2.5	6	38-45 "	
9.	12-15 "	4.0	5.0	3.0	6	40-50 "	
10.	15-18 "	4.0	5.0	3.5	6	45-50 "	
11.	18 months on	3.5	4.3	4.0	6	45-50 "	Normal cow's milk.
12.	Special formula	3.0	6.0	1.5			
13.	" "	2.0	6.0	1.0			
14.	" "	1.0	5.0	0.5			Diet for acute inanition.
15.	" "	1.8	6.0	2.0			
16.	" "	0.9	5.0	1.0			
17.	" "	0.5	4.0	0.5			
18.	" "	0.3	4.0	0.34			This formula with 0.86 percent proteids is whey.
19.	" "	1.0	5.0	0.3			
20.	" "	0.5	4.0	0.25			

The average composition of woman's milk and cow's milk is as follows:

	Woman's milk	Cow's milk
Fats	4.0 percent	3.5 percent
Sugar	7.0 "	4.3 "
Proteids	1.5 "	4.0 "

Our infant feeding consists in various modifications of these two compositions, especially that of cow's milk. Regarding the exact indications according to which the fats, sugars and proteids are to be varied, much is to be learned. The following are the points which experience has led us thus far to depend upon:

Indications for Milk Modification

For the first six months the child should be weighed every week. During these twenty-five weeks it should gain about ten pounds, or nearly a half a pound a week. Should the gain in weight be slow, with no signs of indigestion, it would indicate that the proportion of all the ingredients should be increased, especially the sugar. For frequent vomiting soon after feeding reduce the quantity of food given and the fat percentage of the same, especially should there be sour masses of food regurgitated; sometimes this calls for a reduction of the proteids, which is particularly indicated in habitual colic, and the presence of curds in the stools. Symptoms of an excess of sugar are colic, or thin, watery, green, very acid stools, sometimes excoriating the buttocks. In some cases there is much eructation of gas from the stomach.

The most constant indication that fats are too low is constipation with dry, hard stools; but in infants under six months the fats should not be increased above 4 percent.

If the child seems to be doing well and yet has diarrhea, all the elements may be too strong or the child has too much nourishment. Human milk does not change in lactation after the first few weeks, the infant only gets more of it.

In the modification of cow's milk that of the whole herd should be used rather than the milk of one cow. The milk should be tested for acidity with blue litmus paper, and if acid it should not be used. It goes without saying that the herd should be healthy and kept clean.

How to Use the Percentages

In order that the above percentages may be easily used the following equations according to Dr. Bauer of New York will be found the simplest and correct enough for our purpose:

1. $C\ (20\text{-percent}) = \frac{Q(F-P)}{16}$
2. $M = \frac{QP}{4} - C$
3. $W = Q-(C+M)-$(amount of lime water)
4. $S = \frac{Q(L-P)}{100}$

Table

Let Q = the total quantity in ounces of the mixture the child takes in twenty-four hours.
Let C = the total quantity in ounces of cream required.
" M = " " " " " " milk required.
" W = " " " " " " water required.
" S = " " " " " " milk sugar required.
Then let F = the percentage of desired fats;
P = " " " " proteids;
L = " " " " lactose (milk-sugar).
20-percent cream is that which comes from a separator otherwise known as "centrifugal."
12-percent cream equals the upper one-fifth of milk after standing six hours.
8-percent cream equals the upper one-third of milk after standing six hours.
16-percent cream equals the gravity of skimmed cream.

The denominator in equation No. 1 is always 4 less than the percent of the cream employed.

Suppose we had a case of acute inanition. We would use, as a diet in this case, formula No. 14, giving the infant ten bottles of 2 ounces each, or twenty ounces per day. About 5 percent of the whole amount should be lime water. We note in this formula that there are 1 percent fat, 5 percent sugar, and 0.5 percent proteids. Being in the country, away from a centrifugal separator or creamery, we would use the 12-percent cream. Substituting these known quantities in the above equations we have:

1. $C(12\text{ percent}) = \frac{20(1-0.5)}{8} = \frac{20\times\frac{1}{2}}{8} = \frac{10}{8} = 1\frac{1}{4}$ ozs.
2. $M = \frac{20\times1}{4} - 1\frac{1}{4} = 5 - 1\frac{1}{4} = 3\frac{3}{4}$ ozs.
3. $W = 20-(1\frac{1}{4}+3\frac{3}{4})-(5\%\text{ of }20\text{ ozs.}) = 20-(5+1) = 14$ ozs.
4. $S = \frac{20(5-1)}{100} = \frac{80}{100} =$ 4-5 oz., or $6\frac{1}{2}$ drs.

One even tablespoonful of sugar equals about 3 drams by weight.

Our directions for the food then are: Take of

Cream	1½ ozs.
Milk	3¾ ozs.
Water	14 ozs.
Lime water	1 oz.
	20 ozs.
Milk-sugar	2 tablespoonfuls.

Should cane-sugar be substituted, only one-half the quantity should be used.

Dessau, in *Medical News*, recommends taking the upper portion of milk that has stood from four to six hours at a temperature not above 60° F. The proportion in this he claims is better. A pinch of table salt or sodium phosphate is added as cow's milk contains no *sodium salts;* also a heaping teaspoonful of raw cane-sugar to the quart. This is set in cool water in a double boiler and allowed to remain on the fire ten minutes after the water has begun to boil. This not only pasteurizes the milk but modifies the casein and consequently the curd; and does not injure the nucleins, globulins and calcium salts. This is diluted one-half for infants under three months; for older babies one part of water to three of milk is usually satisfactory. Barley or oatmeal water cooked one hour and dexterinized with diastase may be used for dilution when there is intestinal disturbance. In constipation increased dilution or malt extract is indicated.

Milk Which Is Poor in Iron

Winters, in *The Medical Record*, states that too prolonged use of milk, which contains little iron, causes anemia. From the seventh to the tenth month the farinaceous ferments are present in sufficient quantity to indicate an addition of some food to the milk. Now, oatmeal is rich in all food essentials, including iron, and its indigestible cellulose can be strained out. A teaspoonful of this jelly can be added to alternate feedings and gradually increased. A child of five years needs half as much as a man doing light work. The carbohydrates are more necessary than in adults to meet the demand for heat and energy, and they shield the proteids and fats from oxidation, that these may be stored for the demands of growth. Proteids and mineral salts are needed in large quantities. Nerve-tissue and bone-marrow require large quantities of fat. Fifteen per-cent of the nitrogenous matter in meat consists of extractions which over-stimulate the nervous system. Vegetable proteids are better and the cellulose in them may be eliminated by soaking over night and straining.

Jacobi of New York thinks that there is no excuse for allowing a newborn baby to loose its weight in the first week of its life. No doubt this may be obviated by feeding the infant with simple food as indicated in the above formula. As in the adult, plenty of water for the baby is beneficial. It flushes out the kidneys and the excretory organs and prepares the child for the proper handling of its food. If plenty of water were given to the child at first the uric-acid infarcts would probably be prevented and many cases of renal calculus would not occur.

In each case the food must be suited to the individual; remembering that there is one principle, and that is, that the milk should be good, fresh, pure and clean, and should be germ-free.

The Nursing Bottle

The nursing bottle should be absolutely clean and should be one that has no curves, no small neck, and one that is easily *kept* clean. The nipple should be one that can be easily turned inside out and yet not collapsible. They as well as the milk should be germ-free. The infant's constitution fighting against these microbes loses its vitality and hence the child looses weight.

There are many kinds of bottles on the market, but the one, in the writer's experience, that best fulfills the above conditions is that made by the Hygeia Nursing Bottle Company. The only criticism that can be made is that the "breast nipple" is liable to collapse, and it does not last the length of time commensurate with its price. With this bottle as with the mother's breast the infant does not nurse wind, especially if the mother holds the bottle while the baby feeds. In this way the ingestion of food is regulated and colic and indigestion are prevented. It is a deplorable fact that many

mothers are lazy and want the kind of a nursing bottle which will permit them to leave the baby to do its own nursing and to take care of itself.

Of all times in the human life this is the time when regular habits are to be formed. The mother or nurse can not afford to be lazy or neglectful. As early as at six months the infant can be trained to have regular daily movements of the bowels by being placed every morning at the same hour on a chamber. With this regularity and due attention to proper diet persisted in throughout life habitual constipation with its long line of attending evils can and will be prevented.

Common Causes of Indigestion

Practical observations on digestion, diet, the common stomach ailments and rational methods of treating them, with a running fire of comment based upon clinical experience

By F. B. GOTTSCHALK, M. D., Chicago, Illinois

II

ANOTHER fact to be borne in mind is that the natural ferments will not work in the presence of their own end-products. Thus ptyalin becomes inactive in the presence of an accumulation of maltose or dextrose, which are the end-products of salivary digestion. The reactions which are brought about by a ferment are rarely if ever complete, unless the products of the reaction are removed as formed, the reason being that nature, being a natural economist, is continuously re-forming from the products of the reaction the substances with which the ferment was before mixed. This thing nature does all along the line with her ferments.

Physiologists tell us that we secrete about three pints of bile in twenty-four hours, and that from one pint to one quart of gastric juice is secreted at each meal. These ferments are constantly forming and reforming from the absorbed bases or salts. The amount of hydrochloric acid secreted in twenty-four hours is far more than a fatal dose if it were present for absorption in the stomach at one time.

Do Not Mix the Starches

The foregoing facts are most suggestive, and unless the stomach is very vigorous and its motility extra active, it should cause us to hesitate in smothering our breakfast-food with sugar or following a meal of starchy food with candy or other confectionery. The fact further suggests to us that it is not well to combine cereal starches and vegetable starches in the same meal; that is, don't use potatoes and carrots and parsnips with a meal of bread, breakfast-food or pastry. The digestion of vegetable starch is much easier than that of cereal starch, because it is less compact, hence more readily digested.

Cooked and uncooked starchy foods also fail to harmonize, since the cooked starches digest fastest. This has no reference to radishes, olives, lettuce, celery or green onions, which can be used in all combinations, as they do not ferment nor interfere with the digestion of other foods. Potatoes contain 15 parts of starch and 85 parts of water, and hence will digest much faster than pastry or bread made of wheat flour, which contains 85 parts of starch and only 15 parts of water. The same rule holds true as regards rice, corn, oatmeal and other forms of starch. If the starch-ferment does not convert it into sugar, the starchy matter will, in the meantime, undergo a process of fermentation which, producing an acid, promptly puts a stop to the further digestion of starchy food, and this in turn giving rise to a quantity of lactic, acetic and innumer-

able other acids, besides alcohol, all depending upon the ferment present in the stomach.

The foregoing items are important to those individuals whose stomachs have not a great deal of motor power or are dilated. It is, however, well to consider how long a person with socalled strong digestive powers may thus interfere with nature's normal processes without deleterious results.

Unless the mechanical action is a very active one it will not be safe to defy the laws of nature for a prolonged period of time by harboring incompatible elements, as only in the persons of active stomach contractions will these substances be expelled in a short time. If not expelled, the attending fermentation and the liberation of hot gases will cause dilation and expansion of the stomach with the consequent thinning and weakening of the muscle-tissues, the glands also becoming reduced in number and activity. This is especially true of people leading a sedentary life.

The Hydrochloric-Acid Secretion

Man is constantly swallowing thousands and thousands of germs. To prevent these from growing and multiplying in what otherwise would seem to be a natural incubator, nature has provided hydrochloric acid in the strength of 1 part of hydrochloric acid to 4000 parts of water. This acid mixture destroys the germs themselves but does not act on the spores, which, escaping destruction, may survive and multiply in the lower part of the bowels. The motor activity of the stomach-walls propels the chyme through the intestines the moment it is ready. It is absolutely important that the workings of the secretory and the motor functions should be in harmony, and, as a rule, they do run parallel. A decreased amount of hydrochloric acid is usually present in a stomach which lacks motor activity. If this were not so, we can easily see that the increased amount of hydrochloric acid would be likely to work havoc with the stomach.

The mechanical action of the stomach has a paramount influence on the digestion of foods. If only this function is normal other conditions may be lacking, for digestion will go on just the same without material disadvantage, as is seen in cases where the stomach has been entirely removed on account of cancer. The intestines are much more important than the stomach, whose one function is undoubtedly to protect the intestines from harm.

The stomach may be compared to a reservoir, where large quantities of food in different forms and combination may be received until by action of the gastric juice they are so transformed that they can pass onward into the intestines in perfect safety. The stomach is furthermore useful in bringing everything to a proper and constant temperature. Absorption of even water and salts into the circulation from the stomach is very slow. It is in the small intestines that digestion and absorption are seen at their best. It has been found that animals who have had their stomachs extirpated were able to live, but were less able to digest raw meat (only the fiber of the meat seems to make hydrochloric acid necessary) than before the operation. Milk, rice, flour, yolk of egg, cooked meat, cooked cheese, purees, fats and starches were digested with ease.

Fermentation of Stomach-Contents

The retention of food in the stomach which cannot contract, to propel its contents, leads to the collection of fermentation products. Investigation shows that the products of almost all microbes vary with the medium upon which they grow. Acids present in the stomach and bowels are always the result of fermentation or bad combinations of foods, and their presence usually is marked by the formation of gas. The fermentation of food after eating is just as bad as the products of the grain that ferments first and is swallowed afterward. The rapidity with which the flesh of animals taints and spoils is well known. It is easy to determine whether an animal is corn-fed or slop-fed. It is in marked contrast in firmness of texture, in color and flavor and in keeping qualities to the pork of corn-fed swine.

So also the flesh of the human animal in whose stomach fermentation is in progress

is not that of a normal healthy individual. Aside from this, other symptoms seem to be the result of this fermentation poison, the most common of which are a foul breath, flatulence, drowsiness during the day and wakefulness at night, irritability, touchiness and stupidity.

Elie Metchnikoff, of the Pasteur Institute (Paris), has shown that the lactic-acid bacteria are a preventive of the putrefactive processes in the bowel, and has suggested buttermilk as the best vehicle for their ingestion. This fact has been published broadcast, not only by the press but by the various laboratories which prepare pure cultures of the lactic-acid bacteria. A great deal of good may have been done by the use of buttermilk made from this culture, but I believe the evils accomplished by its indiscriminate use counterbalance its benefits by far. I have seen quite a large number of patients with myalgia or muscular pains who had been on this form of diet and who promptly recovered when buttermilk was discontinued. I should hesitate to give buttermilk to a patient already suffering from starchy indigestion, as it will surely aggravate the condition. Buttermilk, being plain milk with fat removed and carbohydrates already undergone conversion into lactic-acid fermentation, added to starchy food will change this also into lactic acid, which nature cannot use to advantage

The Acids Generated in the Digestive Canal

In the past we have heard a great deal about uric acid and its ill effects upon the system, but uric acid is comparatively harmless when compared with the acids generated in the body. We can accurately and absolutely measure the amount of uric acid taken into the body with our food, while we have absolutely no means of measuring the amount of acid or acids generated as the result of taking so simple a diet as bread soaked in milk or milk toast, a favorite diet for invalids.

If we stop one moment and think we must realize that bread or toast soaked in milk does not become thoroughly insalivated, and hence is prone to lie in the stomach for a long time, undergoing a process of fermentation and doing the patient more harm than good. The acid produced on a diet of this kind may, in one week, surpass the amount of acids taken into the system in the shape of meat in the course of half a year. Acids manufactured in the bowels are more powerful than acids taken into the body, which are frequently counteracted, neutralized or eliminated within an hour and a half after eating. But if there is a condition of fermentation producing acids in the stomach or small intestines, this condition probably will continue for every hour of the day, being ever present and manufacturing an acid similar to those produced in a brewery or vinegar factory that runs night and day.

These acids are responsible for a large number of derangements of health, manifested in various ways, among which may be mentioned neuralgia, migraine, myalgia, dyspepsia, skin diseases, acute inflammations, etc.

Nature is constantly neutralizing the acids of the stomach and intestinal tract at the cost of the alkaline salts of the blood. A diminution of these salts causes a reduced capacity for absorbing carbon dioxide therefore conversely lessening the capacity of the blood for taking up carbon dioxide, The normal power of the blood to combine with carbon dioxide is 20-volumes percent. This condition diminishes rapidly during the absorption of acids. If the quantity of salts falls under a certain limit, the carbon dioxide formed in the tissues doesn't find enough salts, in combination with which it can reach the lungs, consequently there is an impediment in the functions of the various organs.

Remote Effects of Starch Indigestion

It is well to bear these facts in mind in the feeding of children, who are growing and need a large amount of mineral salts. They suffer most from attacks of starchy indigestion, on account of the consequent fermentation which takes place, this not only neutralizing the alkaline salts and preventing their absorption but robbing the system of the alka-

line salts already present. This is why tonics, etc., frequently do not help in curing the irritable and ugly youngster suffering from carbon-dioxide poisoning, due to the increased amount of that compound in the tissue which, when stored up, may produce varying degrees of intoxication, and if long continued, may result in changing all the ordinary characteristics of the child.

Thus mental obliquity, mental torpidity, viciousness, seeing things in the wrong light —and hence becoming discouraged—may result in imperfect physical and mental development. The growth of each individual tissue in the body is dependent upon its immediate environment, that is, upon its nutritive supply, and indirectly upon the trophic nerve influencing or governing it. Abnormal composition of the nutritive fluids leads to abnormal chemical reaction of the tissues.

Physical conditions interfering mechanically with the supply of nutritive fluids, such as heat or cold, may modify the chemical reactions of the digestive juices. Thus we know that a child having cold feet is liable to have colic, and the adult who chronically has cold hands and cold feet is usually suffering from indigestion, even if he isn't conscious of the fact. I have examined hundreds of patients with cold hands and cold feet with this particular end in view and have not found one single patient where the digestive organs were in their perfectly normal conditions where the patient had chronically cold feet.

Acid fermentation is sufficient cause of uneasiness in the region of the stomach. It is frequently mistaken for hunger, but usually is a call on nature's part to dilute the irritating stomach contents. The constant irritation of the stomach-walls by fermenting material is usually the cause of ulcers in the stomach and may be the primary cause of a malignant growth. Stagnation is a familiar cause of disease of the stomach. Of 10,537 cases of cancer of all parts of the digestive tract, recorded in the Prussian hospitals for a certain period, more than 40 percent affected the stomach.

Notwithstanding an individual's possible ordinary good health, a stomach from which splashing sounds can be produced is not in a normal condition, for in the latter not even at the height of digestion can splashing sounds be elicited, because the stomach closes concentrically about its contents, the organ being adapted to the volume of its contents. This condition pertains as long as the tonus of the gastric muscles remains intact. An atonic stomach, or a stomach with weak muscular walls, does not contract around its contents but yields to the force of gravity and is weighted down by its pressure, just as do the walls of a rubber bag by the fluid contained within.

The relaxation of the muscular fibers is always associated with motor insufficiency, which means inability to propel the normal products of digestion into the intestines in a legitimate period of time. This latter condition sometimes occurs in healthy stomachs when the quantity of food eaten is too large or its condition unsuitable. Atony of the stomach sometimes exists without insufficiency when there is resistance at the pyloric orifice. Striking examples of the improvement of the mechanical working of the stomach frequently occur after washing out the stomach or after vomiting.

A dilated stomach may exist from a very slight to a most extreme degree, from one in which splashing is obtainable only during the normal period of digestion to that in which splashing is present in the morning after an evening meal, that is, food may be found in this stomach which was taken on the previous day. (A dilated, splashing stomach may be very easily diagnosed and there are only a few pathological symptoms of such practical value as a splashing stomach. The only mistake possible would be mistaking a colon half filled with semi-liquid fecal matter.)

In a prolapsed stomach the ingested food resting in the fundus of the stomach causes it to assume much the appearance of water or other substances placed in a rubber sack. The greater the quantity eaten the greater will be the relaxation and thinning of the muscular walls.

In a stomach having perfect motility certain drugs are readily absorbed. Of these

potassium iodide appears in the saliva and urine in ten to fifteen minutes after its administration through the mouth in a healthy, fasting man. In a patient with a dilated stomach lacking motility the iodide cannot be detected in the excretion until a much longer time has elapsed, sometimes an hour or more, showing that resorption is much delayed. Lack of motility in the stomach invariably results in a dilated stomach. As a result of this dilated condition and insufficient gastric motility, decomposition of the gastric contents takes place, in consequence of which a spasm of the pyloric opening of the stomach occurs, which itself will not improve matters if the patient insists on eating when mealtime comes around and furnishes new food for the fermenting germs and microbes, thus tending to perpetuate the condition. A small flame, we know, is usually the cause of a large conflagration.

Starch Indigestion and Tuberculosis of the Bowels

We know that when a patient has a sore throat the lymphatic glands of the neck are usually involved, the lymphatics acting the part of a catch-basin, to prevent the poisons which were absorbed from the inflamed area from being thrown into the system at once. Wherever there is an inflamed area, germs and microbes become active and throw off their waste material. That this should take place on the raw and inflamed surfaces of the stomach, caused by the irritating products of food fermentation, is only natural. Hence, we see that tuberculosis or lardaceous disease or caseation of the mesentery glands is only a natural outcome. A gland is never tubercular to start with. These germs are of a fastidious nature and only come and take up their habitat when a feast is well assured. They don't grub for a living. They are parasites in the strictest sense of the word. Pot-bellied youngsters, the victims of starchy indigestion, are the ones that perish from tuberculsis of the bowels.

The gastric mucous membrane is more proof against the invasion of bacteria than almost any other tissue of the body. In the digestive disturbances the individual functions of the stomach are affected in varying degrees. Although a single function is seldom affected by itself, it is possible from the clinical standpoint to distinguish cases of diseased secretion from those of diseased motility where there is pyloric spasm; atony soon follows, peptic ulcers are favored and healing is delayed.

The Disorders Attending Dentition

At this season of the year the teething infant is a source of much trouble to the physician and anxiety to its mother. The simple, common-sense suggestions contained in this paper will help to prevent teething troubles or to cure them quickly when they are found

By GEORGE H. CANDLER, M. D., Chicago, Illinois

A GREAT many physicians, it seems, take little or no interest in the disorders of dentition. In a recent gathering of active practicians four of them were unable to state with any degree of exactitude the order of eruption. One man thought a child cut its first teeth at six weeks (the upper or lower incisors); another derided such an idea and said no infant ever "showed ivory" before the fifth month and then "cut four teeth together." Still a third expressed the opinion that no man could say with any degree of positiveness when a child would cut a tooth, or all its teeth, but was quite sure that "all the milk teeth were through before the end of the second year."

"A rachitic child may not have its full complement till it is three or four years old."

Just one man (out of the six doctors present) was able to tell the approximate periods of eruption. Under the circumstances I have thought it well to construct a fairly reliable "table of dentition."

The Order of Eruption of the Teeth

The healthy child usually cuts the two lower incisors between the fifth and sixth months. Occasionally — though rarely — these teeth appear as early as the eighth or ninth week. Now and again we hear of an infant having these teeth at birth. The upper incisors follow and are usually through by the ninth month. These teeth give more trouble, as a rule, than those in the lower jaw. The two lateral incisors appear with, or just after, the upper central incisors. The lower lateral incisors make their appearance next, and between the tenth and twelfth month we usually find the normal child with all the above-named teeth fully developed.

In the next four months the anterior molars come through; if cut in the hot weather and in a nervous or weakly child they may cause all sorts of trouble. The gums should, as a rule, be lanced freely in such cases. The canines rarely show till the child is eighteen months old; often their appearance is delayed till the twentieth month. In the next six to eight months the four posterior molars may be expected.

From the above outline it will be seen that the normal child possesses eight teeth at the end of the first year. These are all *incisors*.

At two years he will have sixteen teeth, and by the time he is three, twenty. Unfortunately, at about this time the average city child will be beginning to lose his central incisors. Unquestionably children in America cut their teeth more irregularly and lose them earlier than Europeans.

In considering this subject we must remember also that hereditary influences count considerably and the delicate child of pampered, poorly developed urban parents is liable to set all rules at defiance and cut its teeth at any time, in any way. The great mass of American infants however serve to prove the rule. Rachitic children often cut one tooth at a time instead of cutting them in pairs, and in some pronounced cases no teeth will be present till the child is ten or even twelve months old.

Children who cut their teeth too soon lose them quickly. It is an excellent idea to exhibit in such cases calcium lactophosphate in 1-6-grain doses three times daily for months. Rachitic children invariably call for such medication.

The Disorders of Dentition

Beyond the natural disturbances which may be expected during the eruption of the teeth (pain, salivation, sleeplessness, increased temperature, irritability, indigestion, etc.) we must remember that there exists during this period a special susceptibility to disease. This is, of course, more marked in some children than in others. One infant will get through dentition at the cost of a few sleepless nights and restless days but may require free lancing of the gums, in order to cut short the agony. Another child will be seriously ill every time any of its teeth erupt but will present not a sign of local congestion. Some very obstinate coughs appear during dentition. These are reflex in character and of course fail to yield to the usual cough remedies. Various skin eruptions make their appearance when the teeth are being "cut," and sometimes an eczema appears with the first incisor and persists till the last tooth is through. Usually this means enervation, impaired nutrition and autointoxication. If we correct the disordered body-chemistry the disease promptly disappears.

It would be impracticable to give here a list of *all* the disturbances which may be encountered in the teething child. I have come to the conclusion that the system undergoes a profound strain during the period of eruption, especially of the upper and lateral incisors; the molars do not so often cause trouble, the child at that time receiving a mixed diet, thus being better able to meet the local constructive demands.

A very brief study of the teeth and regional anatomy will enable the physician to understand, partially at least, the nervous and cir-

culatory disturbances which may attend the period of dentition.

"Difficult Dentition" Should Be Studied

Difficult dentition is a condition requiring especial attention. It is necessary not only to study the child itself but its parents. Not infrequently we will find that the father or mother (or both) had "an awful time" with their teeth and close questioning may reveal a family taint which, properly treated early, may be annulled in this infant at least.

Tuberculosis, lues, rachitis, the uric-acid diathesis, these and still other tendencies must be recognized and treated if they exist. Only so may the "disorders of dentition" be controlled in children so affected.

Here I would call attention to a condition not usually mentioned in the textbooks. Every year a certain proportion of our people eat less and less of the cereals, that is to say, the lime- and silica-bearing parts of grain. On the other hand, every year people eat more and more "sweet-stuffs." Naturally their bodies are deficient in bone- and dentine-forming elements. Under the circumstances the child of the third or fourth generation can hardly be expected to possess normal teeth; it may be expected, however, to have plenty of trouble in "cutting" them.

As a matter of fact, in order to secure a normal set of teeth for the child quite often we must treat the mother. Her body chemistry should receive attention from the time pregnancy is recognized. The bowels must be kept active, the pores of the skin open and the excretion of solids up to the standard. Then the woman's diet should be regulated and the ingestion of a sufficient amount of whole-wheat flour and other lime-bearing foods insisted upon. This may seem a digression, but the subject is an important one and during the next decade the doctor who protects the health of his clientele will be more successful than the man who merely treats his patient's diseases.

The nursing-woman's diet should invariably receive attention and if there has been trouble with the dentition of earlier children note the beneficial results which will follow the institution of a scientific regimen.

A recent and very popular writer upon "Diseases of Children" states that scarification of the gums is "entirely useless." "Scarification" may be, but I can assure the practician that thorough *lancing* of the gum over an erupting tooth is often a most efficacious procedure. We have here a band of tough, congested tissue against which presses an unyielding ever-advancing body. Were this body anything else than a tooth, would we leave it to force its way through? Hardly. Then why hesitate to perform a simple rational operation which will give immediate relief when a tooth offends? If the gum is hot, swollen and red (with perchance a white, taut band across the crown of the tooth) cut quickly through to the tooth itself. Use a sharp scalpel, guarding most of the blade by wrapping with gauze. The bleeding is slight (and desirable) and, if the operation is thoroughly done, pain ceases immediately and the child sleeps. Mere *scarification* is adding insult to injury.

The moderate fever which usually attends dentition will yield (if it requires attention) to a mild calomel and saline purge, light feeding for a few days, a plentiful allowance of pure cool water and cleanliness of the buccal mucosa. If anything more is required gelseminine will prove most efficient. Gr. 1-5000 to 1-300 may be given in solution every hour for three to six doses. This drug is as a rule preferable here to aconitine, though where the fever runs high and there are evidences of infection the latter remedy may be given without hesitation, always, however, with or after a mild mercurial purge.

Treating the Restlessness and Nervousness

The restlessness and peevishness which accompany "teething" yield as a rule to these measures, but occasionally the "calmative" formula, suggested in my book, "Every-Day Diseases of Children", will be found extremely useful. It contains hyoscyamine, oil of cajuput, oil of anise, menthol, camphor monobromide and scutellarin. One tablet is dissolved in four to six teaspoonfuls of warm, sweetened water and a teaspoonful or less exhibited every thirty minutes till

the face flushes or quiet is secured. I have rarely had to give the fourth dose.

Do not, however, attempt to *force* quiet and sleep upon a teething child with a full stomach and bowel. If time does not press order calomel, gr. 1-10, half hourly for two or three doses (substitute blue mass and soda if acidity and hepatic insufficiency are marked), follow with a few spoonfuls of a sweetened solution of magnesium sulphate or similar saline laxative and reduce the milk allowance, diluting (if the child is bottle-fed) with thin barley water. The latter is not only nutritious but an excellent diuretic. *Then*, if more pronounced medication is required, give the suggested calmative combination, gelseminine or other sedative. If conditions are *urgent*, flush the bowel with cool decinormal salt solution; wash out the mouth with a cool, mild, alkaline antiseptic and give the indicated remedies *and* the mercurial conjointly. Fully nine-tenths of the disorders of dentition may be controlled in this simple way.

When Convulsions Threaten or Are Present

If nervous symptoms are so pronounced that convulsions threaten or occur strip the child, place it in warm water, wash out the bowel (empty the stomach with apomorphine if loaded with food) and exhibit a few doses of gelseminine or hysocyamine. (The calmative formula works ideally here.) Usually in a few minutes conditions will improve; now give the calomel or a dose of castor oil and leave the child lightly wrapped and with its head cool in an airy place. Order darkness and quiet.

Unfortunately too often the doctor arrives to find the child already freely medicated by the "wise women" of the neighborhood. The convulsions may have ceased or be still occurring, but tumult reigns and no one can give a rational account of the early symptoms.

The first thing to do is to clear the room of all but two of the coolest attendants. Then *examine* the infant, meanwhile asking questions as to diet, stool, urination and earlier conditions of health. Quite often injudicious feeding is at the bottom of the whole trouble. If this is the case proceed as already suggested. If the gums are swollen lance them.

Examine the Rectum and Look for Worms

Do not fail to pass your finger gently into the rectum. I have had convulsions cease when I removed a piece of egg-shell or a pin. Worms must be thought of always. If suspected give small doses of santonin and calomel, gr. 1-10 of each hourly for four hours, then double the dose; castor oil four hours later. An enema of warm salt water aids their eviction. Seatworms, that often annoy teething children, are easily detected; an infusion of quassia chips injected into the bowel settles these parasites. Use a handful to the quart of boiling water. Keep the lower bowel lubricated with carbolized or carbenzolated petrolatum.

Always keep the head cool and the feet warm in a case of convulsions and never forget the wonderful efficacy of apomorphine. It is best given hypodermatically when conditions are urgent. Hyoscyamine or gelseminine with camphor monobromide will be all the other sedative drugs needed for the time. Scutellarin or passiflora (with or without zinc bromide) may be required to maintain quietude. I find the two first-named remedies quite effectual in the nervous disorders of dentition.

If the convulsion is not directly due to dentition it may be so by reflex action; the teething child often suffers from deranged digestion, and gastrointestinal disturbances commonly produce convulsions. Hence the necessity for immediate elimination and prompt sedation of the sympathetic system.

The Toilet of the Mouth

Buccal disorders are sometimes intractible. The intestinal canal must be kept empty and as aseptic as may be by the use of mild laxatives and the sulphocarbolates. The diet must be light and water should be given regularly.

A mentholated alkaline antiseptic solution may be used to swab the mouth and gums with before and after feeding (I consider this step important), and borated glycerin can be applied to the affected areas several times

daily with advantage. Iron and quinine arsenates are excellent tonics here; quassin may be given with benefit and it is especially indicated if anorexia is a symptom.

Anemic infants require nuclein and the arsenates with fresh or prepared bovine blood three times daily, preferably with food.

Calcium lactophosphate should be given wherever there are signs of rachitis or even "lime insufficiency." I find this drug with iron phosphate (or arsenate) and nuclein an ideal vitoincitant and reconstructant.

Finally, prescribe for teething children plenty of fresh air. They should spend at least six hours a day out of doors, well protected from sun and wind of course, but *out of doors*—or as near it as possible. It is wise to warn parents against placing the infant in a direct draught.

An examination of the mother's milk in troublesome cases may prove enlightening; children over seven months old should begin to eat crusts, whole-wheat biscuit or zwieback. In another month half a fresh egg daily will prove beneficial. Children fed upon "artificial foods," sterilized milks, etc., may cause the doctor much trouble and he may find that the "disorders of dentition" depend in such cases entirely upon "improper nutrition." Make it a point to *know* what the child ingests and eliminates. This understood it is (comparatively) an easy matter to regulate the body-chemistry and maintain health.

A last word: Opiates are almost always an abomination in pediatrics; in treating the teething child their routine use amounts to malpractice. We can remove the cause of pain and sleeplessness if we go about things the right way and if we *must* use sedatives there are any number of drugs better—and infinitely safer—than opium or its alkaloids.

Calcium Constitutions and How to Treat Them

This paper attacks an old problem in a new way, throwing light, not only upon the nature of such conditions as the pretubercular state of rachitis, but giving suggestions which should prove of great value in their treatment

By A. E. COLLYER, M. D., Elgin, Nebraska

THAT tuberculosis is not directly hereditary I believe is generally acknowledged to be a fact. That there is a hereditary tendency toward or susceptibility to tubercular infection early in the life-career of those so unfortunate as to be born of tubercular parents I believe also goes without question. That there is something minus in the physical make-up of the individual subject to tuberculosis is considered evident, and that particular thing consists in the absence of lime (calcium) salts, the calcium carbonate and calcium phosphate becoming more and more recognized as the salts most generally lacking. The type of physical constitution which the lack of these salts gives rise to may be detected by the careful, observing physician, and it may not be out of place to give a general sketch of this type, as met with in everyday practice.

Calcium-Carbonate Constitutions

Babies of this type usually are born quite normal-looking and often the birth is quite easy on account of the softness of the bones of the skull and the ready manner in which they mold to the outlines of the parturient canal. They are fat, generally spoken of by the mothers as "good babies"—fat and plump of body with small "Happy Hooligan" necks, and small limbs, especially the lower limbs. They seem to do nicely for a shorter or longer period of time, sometimes for months, and sometimes for only a few days, and then you commence to hear complaints.

The baby frequently vomits after nursing, the ejecta usually being quite sour; he looks

white and fat; the crown of the head commences to push out and the fontanels grow larger instead of smaller, this making a head much larger on top than at the base. Often the forehead projects over the nose till it looks deformed, and then the whole head sweats profusely, especially when baby sleeps, sometimes wetting the pillow badly, and that sweat often is sour. The neck keeps very small and also the lower limbs. On account of the anemic state of this baby and the sweat it is very liable to sudden colds, and then we have a baby that usually partakes of these characteristics:

It is drowsy, and we find pupils dilated, drooping eyelids, injected eyeballs, profuse hot sweat on the head, with a tendency to jerk and twitch in sleep or suddenly to jerk from sleep to an awakened stage and a cry as if frightened.

If the child is old enough it wants to jump out of bed and may even complain of seeing something terrifying. After a short time it quiets down again and is soon drowsily jerking its muslces as before. Fever may run up to 104°F. or above, and the bounding pulse, especially noted along the carotids, hints at the cause of the mental disturbance. If left alone, it gradually gets better but may have a run of temperature for two or three nights in succession. The mother usually "doctors it up with" maybe, onion syrup, lard and oil of turpentine to its chest, etc.

Trouble at Teething Time

After tiding the baby along for a few months the mother wonders why the teeth do not come. Finally one does start, and then new troubles begins, with high runs of fever of the same type, and diarrheas. After awhile the teeth gradually come through, one after another, only to be found soft and crumbly and set in the jaw in every direction, zigzag, one in front of the other, some like little pegs, others altogether too large, and the whole mass so large that the undeveloped jawbone is unable to hold them all in a row, thus projecting some, especially the front teeth, forward.

The baby has now passed along to fourteen or sixteen months of age, and may even now be unable to take a step. The mother wonders why baby does not walk. An examination reveals the small undeveloped legs, oftentimes crooked, and the soft little ankles that bend like a green twig when you take hold of them. But mother encourages the child to step, and the little ankles turn and the instep springs down till we have a "flat-footed," "bowlegged," "anklesprung," child that needs a brace on the shoes, a wedge to hold up the instep, and possibly a leg-brace.

Time goes forward and the mother tells you she thinks the child has "worms" (and it often has); it likes sweets and boiled eggs, and dislikes particularly fat articles of food. The fontanels finally make up their mind to close, but leave an immense top-head with bony ridges running along the line of the heretofore wide-open symphyses.

This child is always subject to those sudden attacks of fever which often brings the doctor in haste, while the next morning everything has disappeared and there is not a ripple on the surface to show for the terrible storm of the night previous. When grown up these children often develop into very fleshy individuals, especially after the period of full development is reached at about thirty years of age, but you know them by their inability to stand much walking, their general physical laziness, their thirst (frequently) for beer, and appetite for ham and eggs. They are frequently quite bright mentally.

What Is the Cause?

There is something about the toxins created by the tubercular germ that causes its victims to lose their desire for food in general, but especially the fats. They also inhibit the tissues from taking up their proper amount of calcium salts. These tendencies are directly infused into the constitution of the forthcoming child, for how can a mother transmit qualities, or a father transmit qualities, which neither one physically possesses? That these salts shall be lacking is a *sine qua non* of the physical condition of the parent stock. This inhibitory action stays, in the vast majority of the cases, with the child, and although there may be

ample calcium salts in the food ingested, yet is nature unable to utilize them. Sometimes that inherent quality in nature which always tends toward the normal will, in the course of time, overcome this inhibitory action and we see the pendulum swing over to the opposite side and the bones become excessively developed and very hard.

The Treatment of the Condition

Almost anyone can talk learnedly upon the constitutions, their etiology, pathology, etc. Unfortunately the members of the so-called French school have studied the matter and have kept their eyes glued to the microscope so long that they cannot see further, and do not want to if they could. The matter of treatment of any given condition has always been a point where everybody has taken the liberty to carve a road for himself, unless he is too indolent to do his own thinking.

There is a saying that "there is more than one way to kill a cat and that it is not always the right way to choke him to death on butter."

I might say with equal truth that there is more than one way to cure patients of this kind, and it's the wrong way to kill them by stuffing them full of lime water and other crude calcium preparations. It is a well-known fact to those who observe carefully that the system reacts in such a manner as totally to reject any substance when forced upon it in too large quantities and thus give rise to the very same symptoms that arise from the total lack of *any* of the substance in question. I have seen many cases of these calcium patients totally spoiled by the physician in charge not recognizing this fact, and when the patient would begin to relapse from the cause named, instead of discontinuing his medicine entirely for a short time and then taking it up in much smaller quantities, he would double the dose.

As I understand remedies now, they can be divided into three different classes as follows:

First, those remedies whose influence is exclusively exerted upon the life-force of the patient and which thus cause nature to set her own laboratory into motion and execute the chemical reactions necessary to produce normal actions of the body. Among these may be mentioned arsenic, antimony, the metals in general, potent poisons, etc. These should be given in extremely minute doses, much smaller than is the common practice today, repeated till effect and promptly discontinued for an indefinite period to allow nature to have the benefit of enough time to work out her own complex laboratory system.

Second, those remedies which supply nature with material for her laboratory use and which she does not find readily at hand. A chemist may have plenty of ambition to work out a formula for a definite purpose, but if, like old Mother Hubbard, he finds his cupboard empty, wherewithal shall he elaborate? Given the proper pabulum and the will to do it and, unless someone comes in and holds the chemist up with a shotgun, he will forthwith do his work promptly and speedily.

That, then, leads us to the next thought. But the remedies that are found in this second group may be many and always answer to the following description: nontoxic. Such are nuclein, lecithin, capsicum, lobelia, echinacea, besides many, many others.

Third, those remedies which have a direct influence upon elimination of waste and toxic material. As I mentioned before, how can a chemist elaborate when another man is in his laboratory with a shotgun? Drive him out, clean up the shop. The remedies for this class are the laxatives, sulphocarbolates, boldine, apocynin, and others, some of which belong to the second class mentioned above, as capsicum, lobelia and echinacea. I gave the above classes as they came to my mind; in practice I usually use them the opposite, i. e., I clean up, furnish the chemicals, and then wake up Mr. Chemist to the fact that he has a duty to perform and poke him till he is moving around pretty lively.

Treatment of an Individual Case

With this general outline I will proceed to the case in question:

When this child is presented to you, as a baby with its first fever and its sour vomit

and constipation, a careful diet should be attempted; and here again will you have to deviate some from the accepted formulas laid down for us to accept. In the course of a few days, however, you can get the proportions together in the manner best suited to your individual case. Do not be afraid to use laxative salines per rectum, with a long colon-tube, to keep the bowels clean. Then give two drops of nuclein four times per day, and now touch up Mr. Chemist by fitting his remedy to him.

Read again the description of the characteristic fever-complex in the beginning of this article. That is a typical belladonna case. Put 5 drops of tincture of belladonna (Boericke & Tafel, or Lloyd's specific) in 24 teaspoonfuls of water, and direct one teaspoonful every half hour till fever breaks. If you are called in the evening about 7 or 8 o'clock, look wise and tell them that at about 2 o'clock the next morning the fever will break. Go home and be prepared to meet a smiling face next morning. I have seen it hundreds of times. Unfortunately I have not had such good results with atropine as with the belladonna itself.

The next thing to do is to get that child to take up and utilize calcium salts. Divers methods have been devised to accomplish this result. I have tried nearly all of them. Suffice it to say that I have found nearly all of them wanting until I adopted the plan herewith outlined.

Meet the Need for Calcium

I take one grain of powdered calx iodata, put it in 1000 grains of pure powdered sugar of milk and triturate it thoroughly in a wedgewood mortar for an hour. This mixture I keep in a closely stoppered dark bottle and dispense it in 2-grain powders, with directions to give one powder night and morning for one week. Then I substitute a placebo for the next week, and then give the medicine again, thus giving medicine every other week. This treatment should be kept up till we have a normal child, which will take a longer or shorter time, according to the conditions present. Of course the question naturally follows, Why did you give such minute doses and triturate them down thus fine? Let me quote Von Grauvogl:

"If we consider the anatomical conditions for taking up molecular bodies into the blood, we find, upon the tongue, the papillæ filiformes with their hairlike processes turned inward leading directly to the cells, and which do not readily allow that which they have once taken up into their channels to escape, but transfer it to the blood. The mucous membrane of the cavity of the mouth, throat and esophagus, as well as that of the rectum also, is adapted to take up, very rapidly, what is not larger than the *orifices of their epithelium*, while, on the contrary, the structure of the mucous membrane of the stomach is almost entirely glandular, and *excreting*, so that its ability of absorbing molecular bodies must be far less than that of the above-named parts. The mucous membrane of the stomach is chiefly a *reducing* organ, for the elaboration of such substances as are more dense than water. Only to those solutions which do not exceed the physical density of water is the possibility given to penetrate the mucous membrane of the stomach also, to be taken up by it, and to be transferred to the blood. Chemical mixtures, infusions, decoctions, immediately produce an increased secretion of the gastric mucous membrane, and we may assume with certainty that only the most minute parts thereof will escape the decomposing combination with the secretion of the stomach. . . . In general, it may be maintained that the effect of the remedy, once it is introduced into the stomach, must be uncertain or destroyed."

That this trituration adapts the iodized calcium to reach the circulation direct is abundantly proved by everyday experience. The powders should be given dry on the tongue and allowed to become moistened and retained there as long as possible.

In regard to those cases which lack the calcium phosphate salts, it may be said that they are usually very thin, emaciated, with dark hair; and as they grow up they become phthisical-looking, narrow-chested, thin and tall, with a head too large in proportion to their bodies, because they too have delayed

bone-union in the skull. They have practically the other calcium symptoms, and I usually treat them with calcium phosphate, triturated as above, for their chronic difficulties.

In conclusion I will say that this is not an exhaustive monograph, nor is it clothed in such fine garb as our more erudite friends in our ranks might use; but it contains a nugget of naked truth which *you* can readily prove inside of one month in your own practice. If this meets the editor's approval, and the readers want more along other lines, just say so.

The Decline of the Prescription

Druggists say that prescription business is falling off—even more than would be expected from the decrease in the amount of sickness. The author of this paper endeavors to explain why this is so

By A. L. BENEDICT, M. D., Buffalo, New York

THE pharmacists have awakened to the fact that, relatively to the population or even to the incidence of disease, which has decreased as the population has increased, the prescription business has declined rapidly within the last twenty years. This decline has been not only quantitative but qualitative. Fewer prescriptions are written by the individual physician, and those that are written call for simpler pharmacy, often merely for handing over to the patient a ready-made proprietary preparation, with regard to which the pharmacist acts solely in the role of retailer.

A general movement is on foot to call together the medical and pharmacal professions in order to discuss frankly the reasons for the less intimate relation of the two professions, to correct whatever evils exist and to secure a more cordial spirit of cooperation. This movement, while based to some degree upon business principles, is by no means mercenary but is actuated mainly by the highest professional ideals.

In such meetings as have been held the medical profession has been very frankly censured for the large use which it has made of proprietary preparations, for encroaching on the field of the druggist by dispensing from the office, for having gained much of its practical working therapeutics from agents of wholesale houses, and for various other minor faults.

On the other hand, an equally frank admission has been made of certain faults on the part of the pharmaceutical profession, especially with regard to the patent-medicine business; and both professions have, so far as local attention has been called to the matter, shown a most praiseworthy spirit of fairness and a disposition to cooperate in the interests of public health and of ethical professional life.

Causes of Proprietary-Medicine Abuse

To a large degree, it would seem, the excessive and improper use of proprietary mixtures by the medical profession has been due to ignorance for which it was not directly responsible. Very few of our official remedies are free from obvious defects and dangers. The realization that improvement was possible has rendered physicians credulous of statements made by apparently responsible firms as to the contents of preparations that were certainly elegant in appearance and taste.

Only within the last few years has the existence of an official board for the investigation of medicinal substances, and the still more recent influence of the pure-food and drug law, made it possible for the physician to go behind the statements of manufacturers. In several instances it has appeared that manufacturers have deliberately misrepresented the composition of their prepa-

rations, and that, rather than admit this fact publicly, they have actually changed the composition since the enactment of the pure-food and drug law. In numerous instances it has been shown that, without actual misstatement as to composition, the proprietary preparations are more or less close imitations of officinal galenicals or of such a formula as any competent pharmacist could compound just as well.

Sometimes it has appeared that the manufacturer himself supposed that his preparation contained certain ingredients but which had been thrown out of solution by chemical or physical changes occurring in the process of manufacture. Several years ago the writer showed, by the simple tests feasible in a clinician's laboratory, that a certain nutrient preparation could not possibly contain the amount of proteid claimed. The editor of the journal to whom the report was submitted insisted on a careful verification of the results of chemical analysis by a competent chemist. The manufacturers took the criticism in good part, declared that they had put in the ingredients claimed, and later on actually brought their article up to the standard claimed for it.

Causes for the Decline of the Prescription

Without discussing the matter of proprietaries at length, it should be understood that there are fundamental reasons for the decline of the prescription business, entirely independent of the predilection of the physician for proprietary compounds, or to any diminution of confidence between the professions of medicine and pharmacy.

First of all, drugs play a much less important part in medical practice than they did one or two generations ago. The writer is very far from being a therapeutic nihilist; he believes that disease is largely a matter of disturbed chemistry in the body and that it must, accordingly, be treated chemically, in other words, by drugs. Nevertheless, hygienic measures, surgery, mechanic treatment of various kinds, various radiant forces, psychotherapy, etc., have encroached to a considerable degree upon the field of therapeutics by drugs.

Again, the spirit of the age favors radical treatment, and many conditions formerly of long standing and more or less amenable to palliation or even ultimate cure by drugs are now speedily terminated by measures attacking the root of the trouble.

Even when the radical treatment is medical—or medicinal, in the narrow sense—fewer drugs are employed, adjuvants are omitted, and pain and other disagreeable symptoms are recognized as useful indices of the progress of the disease. Whenever possible, drugs are employed locally, as by sprays, insufflations, application on swabs, or through the catheter introduced into the bladder, rectum, stomach, vagina, eustachian tube, etc. Many methods of treatment, even of a general nature, are dependent upon hypodermatic injections, administered by the physician himself or by his assistants. Even palliative drugs are largely restricted to occasional administration in the office or at the bedside, and are necessarily furnished by the physician himself instead of by prescription issued to the patient.

Cathartics, Antipyretics, Digestive Ferments, etc.

It may be of interest to note certain individual opinions which tend to diminish the prescribing of drugs. The routine use of cathartics, which formerly represented an enormous trade in drugs, is now almost universally regarded as injurious or, at most, to be tolerated only exceptionally. The better physicians expect to cure, or at least control, chronic constipation largely by dietetic measures, not to mention cases requiring operation or mechanic treatment of a radical nature. Cathartics are used, therefore, only occasionally or for brief periods, instead of continuously.

The entire class of antipyretics is in disfavor as antipyretics, though many are used as anodynes, and it is probably going too far to say that temperature should never be controlled by drugs. But it is recognized that the conditions in which the antipyretics are used as anodynes should be only temporarily relieved by such means; gynecologic operations, nutrition or avoidance of meta-

bolic intoxication in neuralgia, various mechanic and other more radical methods in true neuritis, exact diagnosis and etiologic treatment of painful digestive disturbances, attention to eyestrain, etc., cutting off the use of the antipyretic anodynes as soon as possible.

The enormous trade in digestive ferments, in the writer's opinion (which, though far from general, is shared by most men who have made any careful study of the digestive organs), is almost entirely based on a misapprehension. Failure of such ferments in the human organism is relatively rare, and when it does exist, it is usually better treated by other means than the administration of ferments as such.

With less support the writer would also confess that he would be willing to dispense with codliver oil, or, indeed, any form of fat not administered in ordinary food-stuffs. Similarly, though by no means disputing the ability of the animal organism to build up hemoglobin from inorganic iron, the writer very rarely administers iron except in such "natural galenicals" as beefsteak, lamb-chops, spinach, etc., dispensed by the butcher or grocer instead of the druggist.

The iodides are often improperly used in cases showing a tendency to the breaking down of lung-tissue or the liquefaction and increase of an exudate already excessive. In hyperthyroidism (a prevalent condition in atypic and usually unrecognized forms) iodides are distinctly contraindicated; in the opposite condition they are best administered as some form of thyroid extract.

The writer accepts the cynical definition of an alterative as a drug of whose action we are ignorant and, accordingly, he believes that practically all of the socalled vegetable alteratives should be left out of the materia medica. Arsenic, phosphorus, salicylates and various other chemicals which are toxic in a single dose of sufficient amount, many medical men now suspect to be causes of subsequent hepatic sclerosis, interstitial nephritis and arteriosclerosis. Hence they are very chary of their use.

There has also developed a skepticism as to "tonic" drugs. Unquestionably strychnine, caffeine, etc., act as temporary spurs, do not produce obvious harm if carefully used, and may lead to permanent benefit. But the impression is growing that the only genuine tonic is food, properly assimilated, and that arsenic, manganese, iodides, etc., are of little value or, at least, that their ultimate effect can be better secured by other measures, and that lime should be limited to the early years of life.

The Tendency Toward Simple Pharmacy

Moreover, the profession has become generally convinced of several facts that tend toward simple pharmacy. The elaborate prescription of many ingredients is a thing of the past. Sweetened gravies, otherwise "palatable" oil emulsions, bitters disguised with sugar and essential oils, and similar old-fashioned attempts at "*curare . . . jucunde,*" have given place with many practitioners to the use of capsules, pills and tablets.

So far as possible many physicians limit their use of vegetable drugs to active principles, most conveniently dispensed as tablets or granules. Obviously, however, much as the physician may wish to favor the retail pharmacist or relieve himself of the trouble of dispensing, there are many reasons, economic and otherwise, which practically force him to dispense medicines of this nature. Pills, capsules containing liquids and some other preparations, cannot be made elegantly except by elaborately equipped factories. For such remedies, unless an extemporaneous formula is needed which cannot be found in the extensive lists of ready-made drugs, the retail pharmacist is almost necessarily limited in function to that of a dealer.

In presenting this side of the argument the writer wishes it distinctly understood that he believes thoroughly in drugs, properly selected, and that his own inclination is to be relieved as far as possible of the burden of dispensing; also that his experience has led to the conviction that the average druggist is both conscientious and skilful.

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[With the concluding sentence the writer coincides, as with much else that Dr. Benedict has so well said. We may summarize the

whole matter by saying that it is our firm intention not to use any of the drugs to which Dr. Benedict objects, or any other drugs, on simply general knowledge of what they are supposed to do. If the physician possesses only this general knowledge it is much better for him not to use drugs at all. He can begin by sweeping completely off the board all uncertainties in drugs; that is, all drugs which are uncertain as to their nature, and concerning which the physician is uncertain as to the effects they are likely to exert upon the patient.

Then, having cleared the field of the old, tumbledown, ruinous buildings of the past, let him lay his new foundation on the solid rock. That is exactly what Dr. Benedict fails to do. He does not build.

We have got to build. The old house may be bad, but it is a house and gives us some sort of shelter. We cannot lie out on the prairie. We have got to build a new home, founded on the rock of absolute knowledge. Every brick that is laid in the structure must be laid with care and intention. We must know exactly what is our foundation, how much it will bear, how much weight we are going to put upon it. We commence with drugs which, being uniform in their nature, may be depended on always to do the same thing under similar conditions. We should study these drugs to the utmost; not only until we are aware what their effect may be on pulse, temperature, and respiration, but upon the vital functions of the body in health and disease. It is not a difficult matter. The knowledge is within our reach. We may study our drugs so that we know exactly what they will do, and get rid of all the uncertainty of which Dr. Benedict so justly complains. There is no reason why we should not do this if we choose.

Begin with the chemically pure active principles and definite chemicals. Give single remedies, with a distinct comprehension of what those single remedies are going to do, and study your case so that you will recognize the effect you are seeking to produce.

The method is so simple that one who has put it to practice can scarcely comprehend that it appeared difficult to him before he made the plunge. Until he does familiarize himself with the simple, definite use of remedies, with a distinct comprehension of their object, the whole matter looks, as a distinguished friend put it, "Too damn scientific."—Ed.]

The Treatment of Typhoid Fever

The old methods of treating the disease, certain irrational methods still in use in hospital practice, and a thoroughly modern method, which the author has employed successfully in many cases

By E. SMITH, M. D., Lawrence, Kansas
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BEFORE the discovery of the typhoid bacillus in 1880, and before its relation to the etiology of typhoid fever was established, it was customary to commence its treatment with a calomel purge, and frequently with an emetic, otherwise the treatment was mostly symptomatic. The hyperpyrexia was treated with cold water, sponging, the wet-pack or cold bath; the diarrhea with acetate of lead, alum, tannic acid, nitrate of silver and opiates; the tympanites with hydrochloric acid, chlorine water, oil of turpentine, etc. Quinine was given in varying doses, and as the disease advanced and the heart action weakened, alcohol in some form was added. For nourishment, animal broth, eggs and milk were given

On a recent visit to Chicago and some of her fine large hospitals, I found nearly the same line of treatment followed. After the

primary purge, the patient is now given a daily colonic flushing, leaving the small intestine, the seat of the greatest lesions, unmolested for the remainder of the time. The food given was the same, including alcohol, except that lime water is now added to the milk.

Could any better plan be invented for the propagation of typhoid bacilli?

The Marine Hospital Service, Bulletin 41, page 24, states that 78 typhoid germs in fresh milk in seven days increased to 440,000,000. Think of the millions of germs that are propagated and that go forth to invade their host. Is it any wonder that Peyer's patches should slough, producing intestinal hemorrhages, or that patients die during the process of immunization? And how about meat broths? Are they not also excellent media for the cultivation of typhoid germs? If we feed milk why should we dilute it with lime water? Is there so much acid excreted from the stomach in fevers that we should give something to neutralize part of it? Why give alcohol in the asthenic stages of typhoid? Has it not been fully demonstrated that alcohol is a vasodilator? Are vasodilators indicated in weak heart action.

Many of the symptoms attributed to typhoid fever as delirium, tympanites, etc., are caused or aggravated by autointoxication which is produced or increased by injudicious feeding. But I know by an experience of fifteen years that there is a better treatment for this disease, and that if properly managed it is one of the most tractable fevers we are called upon to treat.

So far as I know, the late J. Elliott Woodbridge of Youngstown, Ohio, was the first to formulate a definite antiseptic treatment of typhoid fever. The underlying principle of the treatment was to flush out all of the sewers and keep them clean and aseptic.

Give the primary purge, then follow it up with something like the Woodbridge formula No. 2, containing podophyllin, gr. 1-960; calomel, gr. 1-16; guaiacol carbonate, gr. 1-4; menthol, gr. 1-16; eucalyptol, q. s.; or 1-10-grain doses of calomel, reinforced by salines if needed, so that the bowels will move two or three times each day. Give some good intestinal antiseptic. I use the sulphocarbolates, five to ten grains every two or three hours, and all the water the patient will drink with each dose of medicine. Give cold, not ice water. I think large draughts of ice water are injurious even to a fever patient. In addition, you can feed small amounts of fruit juice.

If this plan of treatment is followed in typhoid fever, or fevers that may be mistaken for typhoid, there will be very little delirium or tympanites and no intestinal hemorrhage, and, I fully agree with another who said: "If a case of typhoid fever runs over two weeks there is something wrong with the treatment."

A Case of Graves' Disease

A description of an extremely interesting case of this affection, in which a number of remedies were used, some with good results and some without benefit. The treatment that finally cured is described

By A. H. NORTON, M. D., North Adams, Michigan

THE following case of Graves' disease came under my observation about two years ago, and inasmuch as it presented some very interesting points I will review it briefly for the benefit of the brethren.

The patient was a young lady 22 years of age, well built, weighing about 140 pounds, blonde complexion, and at the beginning of her illness the very picture of health. Family history negative. She was a fine vocalist and church-worker and during

some revival meetings in December, 1905, sang solos quite frequently. One night while in the midst of a solo her father, a pious old fellow apparently somewhat addled, "got the power" and went marching up the middle aisle shouting "Hallelujah" in a hysterical manner. This together with some other worries seems to have been the genesis of her trouble. By about spring-time the least excitement would set her "all of a tremble" and she had to give up her place in the choir. At this time physical examination revealed nothing.

In May, I think it was, a slight enlargement of the thyroid gland became evident, being accidently discovered from a profile view with the patient in low-necked dress; and very soon after the tachycardia was observed.

Method of Treatment

The diagnosis now was evident. In the way of treatment I ordered rest as complete as possible and began the administration of digitalin, dose 1 milligram every three hours. Being of a lively nature, quietude to this young woman was almost impossible. During the month of August she went to visit some relatives in a town fifty miles distant; this on the promise to keep quiet—though much against my judgment. While there, she had an attack of diarrhea and dysmenorrhea and the physician called gave her a vaginal examination, which was negative in results. The doctor concurred in my diagnosis and in a letter to me gave it as his opinion that treatment would be unsatisfactory.

Soon after the woman came home and called at my office. Her pulse showed a rate of about 130, and by this time the exophthalmos was marked and the tremor was plainly present. I neglected to mention before that the peculiar staring expression was noticed at the time the rapid heart was observed. I told her I considered her in a serious condition and that she should go home and go to bed. Long before this I had told her people of the gravity of the case as the literature on the subject is anything but reassuring.

The patient grew rapidly worse and I summoned Dr. S., a brother-physician in a neighboring city, in consultation. He concurred in the diagnosis and suggested thyroid extract and a tonic of Blaud's mass, 5 grains, and arsenic, 1-40 grain. This was on October 2. The medicament was administered for five days, but there was a steady aggravation of symptoms, whereupon the thyroid extract was withdrawn. Temperature now was 102°F. and the pulse 140.

Thyroid Found of No Value

Various other measures were now tried, directed at her various symptoms, such as headache, nausea, twitching, etc.; also a steady effort was made to quiet the heart with digitalin, cactus concentration, etc. While her intercurrent symptoms were relieved the general condition was not improved. She had no appetite, was becoming emaciated, the protrusion of the eyeballs was so marked that the left lid could not be closed and the right one only with difficulty.

On October 17 Dr. S. was again summoned and he agreed that the thyroid preparation was not indicated but recommended digitalis, 2 minims of the fluid extract every three hours, with alternate hot and cold applications to the pericardium. On October 19 I gave the digitalis every two hours, pulse-rate being 130 and temperature 98.6°F. (Temperature never again exceeded 99.6°F.) Her diet was as generous as could be borne. The digitalis lowered the pulse somewhat, but the nausea it occasioned was severe, so I adopted the rectal method of administration in milk and bovinine. As a consequence the stomach was quieted; further lowering of the pulse, however, seemed impossible.

At this point tincture of lycopus, 5 minims every two hours, was added, but without appreciable effect. Digitalin hypodermically was resorted to, when the pulse took a spurt to 150 to 170. A slight improvement was noticed under strychnine arsenate, 1 milligram every two to three hours.

At this time, October 27, I began the use of the remedy which I think was a prominent contributor to our final success, namely,

sparteine sulphate, given 1-2 grain every two hours. The pulse now dropped to 120 and even to 108, though the average for a day was about 112. November 1 the lowest point was reached since the onset of her illness, viz., 100. This average of 110 to 116 was maintained for some days, when the dose was increased to 1 grain. November 3 the prescription was changed to sparteine, gr. 1-2, and cactus concentration, 1 milligram, every two hours. Also thyroidectin in 5-grain doses was administered three times daily. The cactus did not do the work of the sparteine, so it was replaced in two days by strophanthin, which however also proved insufficient. All of this time a ferruginous tonic was being given. Sparteine was again made the main medicament, dose being increased to 1 1-2 grains every two hours. This was continued until December 1, when the triple-arsenates formula replaced the iron. This not filling the bill, nuclein and protonuclein were each given a good trial, but both without an appreciable effect. The thyroidectin at this stage also was disappointing.

As a matter of fact, I might say that very little influence of any sort seemed to be exerted by any medicament up to this time except the sparteine, which, in my opinion, was the main life-saver in this case.

During December the patient remained about the same, though the pulse-rate rose to an average of 125 to 130, and now an increase in the dose of sparteine did not seem to control it.

December 27 galvanism was tried, positive pole to seventh cervical, negative to sternomastoid muscle, for 5 minutes. Later the anode was applied to the pericardium and the cathode to the sides of the neck. January 3 the patient was moved on a cot to her sister's where she received better nursing than before, and in more congenial surroundings. Her weight now was 70 pounds. January 18 the sinusoidal current over the spine was substituted for the galvanism, but this also had no appreciable effect. So on January 25 the use of electricity was discontinued and the dose of sparteine raised to 2 grains every two hours. During January the pulse average rose to 140, though in every other way improvement was manifest. January 19 her weight was 74 1-2 pounds, and from this on an average gain of 2 pounds a week persisted with proportional increase in strength, so that from not being able to raise her head the patient on January 18 was able to sit in a Morris chair.

As sparteine seemed to have lost its influence it was gradually discontinued and cactus and digitalis, in form of fluid extracts, were substituted. Thyroidectin also was resumed and normalin 1 dram, three times daily, was ordered. Improvement was continuous in every respect except the tachycardia, and although her appetite had not become very ravenous her weight and strength increased consistently until on January 30 she was able to stand alone. February 25 the sparteine was discontinued, March 12 normalin was replaced by neoferrum, and for some time no medicine was administered except the tonic.

On June 6, following Forchheimer, I prescribed quinine hydrobromide, 4 grains four times a day. This acted nicely on her pulse, bringing it down to between 90 and 100, also lessening the exophthalmos, which however already had begun to decrease. The patient now, May 1908, weighs nearly 150 pounds and follows whatever employment she sees fit. However her pulse is still above what we should consider normal, but in every way she looks and acts as well as before her illness.

As I recall the case I think the medicines which achieved the most for her were sparteine, the ferruginous tonics, possibly thyroidectin, and quinine hydrobromide. These would be my main reliance in a similar case. Nevertheless, I think rest and good nursing play a paramount part.

What the Urine Report Means

The writer of this article makes a strong appeal for more frequent and more careful urinary examinations. He shows that they may often give the physician invaluable information

By HENRY R. HARROWER, M. D., Chicago, Illinois

PROBABLY ninety percent of the medical men in this country manage to get along some way or other without making a urine examination—or at least a *complete* examination. This certainly is an unfortunate state of affairs as it must surely not infrequently result in grave mistakes; for without this most important information the therapeutist altogether too often gropes in the dark. True, many practicians do profess to examine their patients' urine, but unfortunately this is usually a crude procedure and consists, in most instances, merely in determining the specific gravity, a test for albumin by boiling or the addition of nitric acid, and possibly a rough application of the Fehling test for sugar. More than this is rarely undertaken, and as a result of this many valuable therapeutic pointers are missed.

The quantitative estimation of the substances normally excreted through the urinary channel furnishes information regarding the actual metabolic activities of the body that necessarily must prove of immense value in the diagnosis of the conditions present in the majority of those individuals consulting the physician.

The examination of the urine simply for *abnormal* elements alone will assist, it is true, in the diagnosis, provided certain definite lesions are present. However, the frequency of these pathologic conditions is not to be compared with that of the deranged metabolic states, which unfortunately are so extremely common. For instance, the mere positive test for albumin may or may not be of value. Thus in many individuals suffering from serious renal lesions albumin often is not present at all; on the other hand, in a large number of cases the proof of the presence of albumin may be positive and yet lead to an erroneous conclusion, for the patient may be suffering merely from some temporary irritation of the kidneys or possibly the socalled "alimentary albuminuria."

Those laboratory facts which tell us of the exact extent of the work of the body and give an insight into its metabolic processes are especially valuable when one is dealing with those chronic conditions that do not prevent the patient from continuing his usual vocation, as it is particularly in such conditions where a thorough knowledge of the extent of the metabolic and eliminative capacities of the patient is of such value. It is but rarely that this information is sought after in the routine work of the physician.

Even in these days of enlightenment some physicians still believe that the examination of the urine is called for only in cases of suspected renal disturbance. Of course the advantage of the urine test in such cases is self-evident, but this sporadic testing bears absolutely no comparison to the regular application of systematic uranalyses affording definite information regarding conditions that possibly may be the unsuspected cause of the more serious and maybe incurable organic lesions.

I do not believe that I am overstating matters when I say that every case of chronic disease should have not only one but repeated urine examinations. Were this sufficiently appreciated by the average physician he would far more frequently insist upon this as an aid in making his diagnosis; so, also, were the public rightly informed and thus prepared to appreciate this fact, they would be less loth to part with the small fee involved. At all events, all the advantages to be obtained from a complete

examination of the urine can scarcely be enumerated in the limited space of this article.

The doctor adopting the positive rule to make a complete uranalysis in every case often will be in a position to discover conditions which otherwise might have been entirely overlooked, and which, when treated immediately, are distinctly amenable to appropriate therapeutic measures. The information thus gained will expose the real conditions and make it possible to institute intelligent and successful treatment.

To the clinician it is a matter of the highest importance not alone to be able to comprehend and thoroughly to grasp the findings of the analytical report, but much more to read "between the lines" and gain an insight, as it were, into the actual condition of his patient. In order to assist in this, and further that the more salient features so frequently found in urine examinations may be better appreciated, a few important suggestions may not be out of place. Naturally this can only be a condensed presentation of facts already found printed either in the textbooks or current medical literature. Very little is claimed to be original.

The first important thing to do previous to making an examination of the urine is to insist that a complete and accurate 24-hour specimen be secured. This is imperative, as it is well known that individual voidings of urine vary greatly from day to day, and so all careful quantitative work must be done with a part of a 24-hour mixture and the resultant figures calculated on the standard average 24-hour basis.

The amount of urine passed in twenty-four-hour periods varies, of course, depending upon a variety of factors, but under ordinary circumstances it should be between 1000 and 1200 Cc. Under these circumstances the urine usually is of a light-amber color, with practically no deposit, and has a specific gravity averaging from 1015 to 1020. When the urine is dark in color and the amount is less than one liter, this is clearly an indication for increased consumption of water. This one point might well be read over several times, as it is a fact that the majority of people drink far too little pure water, and consequently suffer from conditions caused by a highly concentrated urine.

From the relative proportions between the specific gravity and the amount of urine passed in 24 hours it is possible to calculate with considerable accuracy the amount of solids passed each day; and these figures are another important factor that should always be carefully noted. Multiply the last two figures of the specific gravity by Häser's coefficient—2.33—and the resulting figure is the approximate amount of solids in Grams per 1000 Cc. Many diseased conditions are dependent to a greater or less extent on a decrease of the urinary solids, with a consequent toxemia from the retained waste products. Also an increase in the solids is of considerable diagnostic value.

A healthy individual should excrete on an average the following amounts of solids in proportion to the body-weight:

Weight in lbs.	Urinary Solids	
	grains	grams
40	392	25.61
50	497	32.43
60	563	36.59
70	639	41.53
80	716	46.53
90	789	51.28
100	854	55.41
110	916	59.54
120	974	63.30
130	1028	66.82
140	1078	70.06
150	1150	74.75
160	1198	77.87
170	1237	80.4
180	1260	81.9
190	1300	84.5
200	1330	86.45

The Chemical Examination

Under this head are found a number of very necessary tests, several of which are simply qualitative, applied to determine the presence or absence of certain pathologic elements, among which may be mentioned

sugar, albumin, bile, blood, diacetic acid, acetone and indolacetic acid.

Sugar and Albumin.—It is customary, if sugar or albumin is present, to estimate the amount either in Grams per liter or grains per ounce. The albumin-content may also be expressed in two ways, i. e., either in volume-percent in 24 hours (as estimated by Purdy's contrifuge method) or in Grams per cubic centimeter (or per 100 Cc.), as easily and quickly estimated with my albuminometer, employing Goodman's phosphotungstic-acid solution as the reagent.

Reaction.—The reaction of the urine is of considerable importance. Unless alkaline fermentation has taken place, the urine usually is acid in reaction, and the degree of this acidity should *in every case* be estimated, as it offers information of extreme value if one desires results. For convenience the urinary acidity is expressed in degrees or percent, each degree representing the amount of decinormal sodium-hydrate solution required exactly to neutralize 100 cubic centimeters of the total amount of urine. The normal acidity of the urine passed in the 24-hour period varies from 30° to 35° or 40°.

Another important factor to be calculated is the relation between the urinary acidity and the amount of urine passed in 24 hours. This has been made possible by the establishment of an "acid-index," or "acid-unit." According to Dr. A. L. Benedict of Buffalo an "acid-unit" means 1 Cc. of urine with an acidity of 1°, or, in other words, the figure obtained by exactly neutralizing one cubic centimeter of urine with 1 Cc. of 1-10 normal solution of NaOH, representing 100 units. This acid-unit index is easily obtained by multiplying the degree of acidity by the amount of urine passed in 24 hours. Dr. Benedict believes that the normal should be in the neighborhood of 40,000 acid-units. According to a large number of tests this is correct, representing about 1000 to 1300 cubic centimeters of urine with an acidity varying from 30° to 40°.

In some cases the reaction will be alkaline, due either to fermentation of the urine in the bladder from cystitis, to retention because of obstruction of the urinary outlet, or to fermentation after the urine has been voided. Usually alkaline urines are associated with the microscopic findings of pus-cells, an excess of epithelial debris, and the crystals of ammonio-magnesium phosphate, which show that the irritation of the lining of the urinary tract has been sufficient to draw many leukocytes there, that the epithelium has been exfoliated much more than usual, and also that ammoniacal decomposition has taken place.

Uric Acid.—At one time the estimation of uric acid was considered of great clinical import, but in spite of considerable work along this line and a large amount of literature upon the subject it seems that the real clinical significance of this test as a routine measure is becoming less and less valuable. Its presence or absence as determined by the qualitative test usually suffices. Then the microscopic search for urates and uric-acid crystals generally precludes the necessity for making the tedious volumetric analysis for this substance.

Urea.—The urea-index is one of the most necessary and important findings in the examination of urine. It is a valuable guide to the eliminative powers of the body and, when rightly interpreted, is of great service to the diagnostician. Many urinary findings, such as high acidity, indicanuria and other evidences of autointoxication, very frequently are associated with a diminution in the amount of urea eliminated. It is for this reason that the urea-index is of such importance, as it must be evident that if the normal amount of nitrogenous waste products is not passed from the body from day to day, that serious metabolic disturbances are present. On the other hand, in diabetes and other conditions the urea-index often is increased, and this, too, is just as valuable a guide to the physician.

The normal urea elimination for the average individual is about 30 to 35 Grams daily. It is increased, however, by excessive use of meat and other nitrogenous foods, and by severe exercise. Some investigators have claimed that it is also increased in febrile conditions, but this find-

ing is not always constant, as it has not infrequently been found diminished.

Considerable stress has been laid upon the estimation of the urea-index of the urine of children, and the average normal elimination should be remembered. This is about as follows: Children from three to six years old, 1 Gram per kilo.; from eight to eleven, 0.7 Grams per kilo; and from thirteen to sixteen, 0.3 to 0.5 Grams per kilo.

Ammonia.—The estimation of the amount of ammonia present in the urine plays an important part in the determination of the actual conditions present regarding nitrogen metabolism. In severe metabolic disturbances usually due to toxemia, either as a result of the abnormal acid substances found in acidemia or as an effect of other as yet unknown factors, the urea index is considerably diminished and in its place the ammonia passed in the urine is greatly increased. This is in all probability due to the fact that the hyperacidity of the tissues and blood stream in these cases calls for neutralization—as thoroughly and quickly as possible. This is probably accomplished in the liver by the neutralization of these acids with urea-precursors, probably ammonium carbonate, the urea being consequently decreased and the ammonia increased. The evidence given by the estimation of ammonia in acid intoxication is worthy of far greater consideration.

Chlorides.—Since the chlorides of the urine are derived almost entirely from the chlorides ingested in the food, and as this is a very indefinite factor, it would seem that an accurate estimation of the amount of sodium chloride in the urine would not be of much clinical value, although, of course, decidedly of interest in experimental and research work. Since the chloride elimination is subject to such wide variations in health, in my own practice I find that an accurate estimation is not needed. After all, the quantitative test for chlorides does not give very definite signs so far as treatment is concerned, although the diminution of the supposed average normal figure is of interest and the entire absence of chlorides is a matter which should be taken into consideration, as it is always indicative of grave conditions, being practically always associated with certain acute febrile diseases, such as pneumonia, for instance.

This approximate examination for chlorides may be easily accomplished and the tedious work of carrying out Volhard's estimation made superfluous. In cases of pneumonia, where the chloride-index is undoubtedly of great importance, it may be advisable to make a quantitative examination; but of course this, too, is useless unless it is made from a specimen from a 24-hour passage of urine, and daily. Unfortunately this is rarely done as the physician usually has his hands full with other things to attend to in the treatment of such cases.

Phosphates.—Another normal product eliminated in the urine is the phosphates. Much has been written about their significance, but no definite diagnostic information can be obtained from their estimation alone. Some writers have emphasized the fact that the phosphates are greatly diminished in serious cases of nephritis; but this is true of all the salts, and this information can be obtained from a study of elimination under the head of total solids. For this reason the quantitative estimation of phosphates does not, in my estimation, need to be made in the routine clinical uranalysis.

Bile.—The test for bile should be made in every routine analysis as information regarding its presence or absence is of sufficient clinical help to be sought in every case. Many obscure conditions are associated with a stoppage of the bile-passages, and the positive test for bile in the urine is thus made an important point.

Indican.—One of the more recent and at the same time most important urinary tests is the test for indican, which has been shown to be a product of proteid putrefaction in the body associated in the large majority of cases with intestinal fermentation and putrefaction. The accurate estimation of this substance is an exceedingly difficult matter, but means are at hand for approximate work which is of just as great practical value. Indican in appreciable traces, as

shown by present methods of examination, is not normally present in the urine, and the degree of blueness caused by the indigo, which is oxidized during the test, is quite a positive index of the conditions present in the bowel.

Indol.—Another product of intestinal putrefaction is indol, a body closely associated with indican and which is often eliminated in the urine in the form of indol-acetic acid. When this substance is present in appreciable quantities it can easily be detected, and the report of its presence is a finding which gives us definite grounds for treatment.

The relation between the ethereal, or conjugate, sulphates and the other solids in the urine may, in time, become an important factor. A considerable amount of work has been done along this line in France, but at present the difficulty of performing accurate work in a reasonable time prevents this from being done in routine uranalysis, although quite possible in research work.

Blood.—The chemical test for blood in the urine usually is made only as a confirmatory test when the microscopic findings would lead to the belief that there is blood in the urine, when the urine is very highly colored, and when certain clinical facts are noticed which make it advisable to perform this test. The test for occult blood in the urine is very accurate and by its use it is often possible to detect the presence of blood when the microscope shows absolutely nothing suspicious.

Acetone.—The examination for acetone and diacetic acid ought always to be made in cases in which sugar is found in the urine or there is any suspicion of diabetes. It has been stated that the examination for these substances is of more clinical importance than the estimation of sugar, as it is not simply the elimination of sugar that is fatal in cases of diabetes, but the excess of these acids and their precursors in the blood-stream, that causes acidosis and the toxic symptoms noticed previous to coma.

Ehrlich's Diazo Reaction.—The diazo reaction of Ehrlich is still considered to be of some value in the differential diagnosis of several diseases. In the routine urine examination it is usually omitted, being carried out only in special cases. The conclusions of Ehrlich, which seem to be quite satisfactory in spite of some opposition in a number of papers published, are as follows: This reaction is usually found in typhoid fever from the fourth or fifth day, and whenever this reaction is not present and diacetic acid ought always to be made the diagnosis is considered doubtful. Those cases which are undoubtedly typhoid fever and in which this reaction is faint or only found temporarily are usually mild and the prognosis is favorable. In pulmonary tuberculosis this reaction gives a bad prognosis.

The diazo-reaction is sometimes, but not very frequently, found in measles, scarlet-fever, erysipelas, miliary tuberculosis and septicemia.

The Microscopic Examination

No urine examination is complete without a thorough examination of the sediment under the microscope. By carrying out this procedure in every case the presence of certain chronic, insidious and dangerous conditions is observed and information gained which it is impossible to obtain in any other way.

Leukocytes.—The presence of an excess of leukocytes is evidence of some inflammatory condition in or near the urinary tract. (In specimens from women suffering from leucorrhea one frequently finds quite a number of pus-cells which are, of course, extraneous and should not be considered evidence of cystitis.) The presence of pus in the urine is very frequently associated with an increase in the number of epithelial cells found. The locality from which the majority seem to come is of diagnostic importance. When renal in origin, they indicate a marked irritation of the kidney; from the bladder, they may evidence cystitis; from the urethra, urethritis. It should be remembered that large numbers of labial epithelia are often found in specimens from women.

Tube-Casts.—One of the most important urinary findings is tube-casts. It has been

proven again and again that the presence of casts in the urine is never noted in health. This finding is distinctly abnormal, although an impression seems to prevail in medical minds that casts in the urine inevitably are associated with Bright's disease in one or other of its forms. This is a mistake, as many abnormal conditions of the urine may serve to irritate the kidney-tubules to such an extent that casts are formed, thrown off and seen in the urinary sediment. However, when casts are found and the urinary acidity as well as its concentration are abnormal this finding should enable the physician to prevent further damage to the kidney-substance by modifying the abnormal urinary conditions with suitable measures.

The variety of casts found is of much diagnostic importance. Thus hyaline casts are very frequently found in hyperacid urines as well as in chronic interstitial nephritis; granular and blood casts are more often associated with acute renal congestion or inflammation, while waxy and fatty casts occur in the amyloid, cirrhotic or contracted kidney and in the more chronic forms of nephritis.

The presence of red blood-cells, spermatozoa, parasites, etc., in the urine do not require to be referred to here, as these give evidence of findings which cannot easily be misconstrued.

Unorganized Elements in the Urine

Of the unorganized elements usually found in the urine, the most important are crystals of the amorphous phosphates, calcium oxalate, urates, uric acid, triple phosphates and calcium carbonate.

Urates and Uric Acid.—The presence of an excess of urates and uric-acid crystals in the sediment of the urine is almost invariably associated with highly acid urine, although it has been conclusively shown that uric acid does not have any influence on the degree of acidity. The continued finding of these crystals points out a disturbed metabolism which has been called by some the "uric-acid diathesis" and which very often is associated with rheumatism or other socalled "rheumatic" affections. When these crystals are found in the urine, steps should be taken to prevent their persistence, as calculi very often are formed from them, causing much trouble.

Oxalates.—Crystals of calcium oxalate are not infrequently found in the urine, but do not yield any very definite clinical information. I have frequently found them in the urine passed soon after a person has eaten freely of rhubarb. Boston believes them to be common in the urine of persons that are overfed and of sedentary habits and where there is much mental strain. Some investigators believe a persistent oxaluria may be a precursor of sugar in the urine.

Triple Phosphates.—Crystals of ammonio-magnesium phosphate, the most common form of which are the "coffin-lid crystals" are frequently seen. Their presence is evidence of ammoniacal fermentation of the urine, either in the bladder previous to micturation or after passage, if the urine is allowed to stand a long time unpreserved.

There are other and less important crystalline findings in the urine, but they will not be referred to here because of their comparative unimportance, as also lack of space.

SURGICAL AND GYNECOLOGICAL NOTES

BY EMORY LANPHEAR, M. D., LL. D.

SYPHILITIC ULCERS OF TONGUE

It is not at all uncommon for an obstinate syphilitic ulcer (or gumma) of the tongue to be succeeded by malignant disease. This is not a transformation of syphilis into cancer, but the formation of carcinoma from the long-continued irritation just the same as follows long use of a pipe in certain individuals. Whenever, therefore, an ulcer of the tongue, even though known to be of syphilitic origin, persists for many months there should be no hesitancy in insisting upon radical removal. Upon the whole perhaps very deep and extensive burning with the Paquelin cautery will be most satisfactory in the hands of the inexperienced operator.

RENAL TUBERCULOSIS

In most cases invasion begins at the apices of the renal pyramids, the pelves often escaping involvement while the disease is quite far advanced in the apices of the papillæ. Later cavities develop in the pyramids, easily recognizable. If incision and drainage be instituted at this period the kidney sometimes may be preserved, in part, for functioning purposes.

GUMMATA

Syphilitic growths (gummata) which do not speedily yield to large doses of potassium iodide should be excised as would any tumor. Even gumma of the brain, if localizable, should be removed by operation if all symptoms do not promptly subside on administration of 30 to 40 Grams (an ounce or more) of potassium iodide daily. This large dosage can be reached in a short time by daily increase of by one Gram (15 grains). However, many patients presenting gummatous growths (especially of the skin) have already had all the mercury and iodine necessary to cure. Here removal is positively indicated, and any further antiluetic treatment positively harmful. Instead they need (after operation) arsenic, iron, good food and the simple outdoor life, with cessation of all vicious habits.

EMPHYSEMA OF NECK

A puncture of the pharyngeal mucous membrane by some hollow object like a straw, a section of the mouth-piece of a pipe, etc., may lead to the development of alarming emphysema of the areolar tissue of the neck if it is not promptly removed. The opening should be cauterized with a drop or two of pure phenol, when accessible, after removal of the foreign body.

BRAIN ABSCESS IN EAR DISEASE

Too few people know of the dangers to be feared from long-continued suppuration of the middle-ear. This is one of the important topics which should be carefully taught every mother in the world; and especially the important symptoms indicative of oncoming brain abscess or infection of the mastoid antrum and cells.

Brain abscess is to be suspected when there is persistent headache, drowsiness, irritability, nausea, and slow pulse. Sometimes insomnia and disturbed vision have been noted, generally with subnormal temperature, foul breath and other signs of sepsis; general toxemia. Repeated chills point to thrombosis of the lateral sinus rather than abscess of the brain. Pain on pressure over mastoid or above it indicates either extradural abscess or mastoiditis.

As soon as pus infection from otitis media is suspected repeated attempts at immediate localization and evacuation must be made; for to await the appearance of optic neu-

ritis, impairment of reflexes, local paralysis or convulsions means, in most instances, an antemortem examination instead of a life-saving operation. There is no medical treatment except relief of pain and cleansing of the ear frequently—curative measures are only drainage of the focus of suppuration and removal of ossicles in most instances.

OBSTRUCTION OF THE BOWEL

The habit of indiscriminately prescribing a cathartic is entirely too common among physicians. In acute infectious diseases, malarial and other toxemias and in chronic diseases it does no harm; but every surgeon has seen many deaths due to the injudicious administration of purgatives, especially in obstruction of the bowels.

Every doctor should continually have in mind the important fact that sudden complete cessation of bowel movements means (excluding certain rare nervous affections) either some inflammatory condition of the peritoneum or some mechanical obstruction: volvulus, strangulated hernia, intussusception (in the young), stricture (from bands, tumors, etc.) Fecal impaction, save in the very old, is so rare as to merit no mention; entirely too much prominence has been given to it; distressingly too many lives sacrificed by doctors trying to overcome a suppositious condition.

RECURRENCE OF SYMPTOMS OF GALLSTONES

A considerable proportion of cases of gallstone disease will not be relieved by operation at the hands of the beginner. This is due to a stone, either in the duct or some pocket in the gall-bladder, not detected and removed. This accident occurs in the work of men of vast experience also, now and then; but one learns to pack the gall-bladder carefully, to remove the packing from around that viscus, clean the fingers and make a careful digital search along the course of the cystic and common ducts.

If a stone be found it can usually be pushed back into the gall-bladder and removed by the scoop (after withdrawal of the temporary gauze plug). In most cases it is wise to pass a flexible probe through into the duodenum before inserting the pack in the opening into this gall-bladder and then follow this probe with the exploring finger outside the duct. Finally, just before suturing the gall-bladder to the parietes a finger should be passed into the gall-bladder and the interior carefully examined for nested or pocketed stones, which are likely to be found on the under surface of the liver and can then be removed.

AFTER-TREATMENT OF NECK OPERATIONS

To prevent postoperative pneumonia (a most frequent and fatal complication in surgery of the neck) the patient should be made to sit up just as soon as possible after recovery from the anesthetic. This is especially necessary with patients advanced in life. When drainage has been employed it should be removed in forty-eight hours when all danger of hemorrhage is passed and new dressings applied with extreme care not to contaminate the wound. The gauze and cotton should be covered with rubber tissue or oilsilk to prevent food and saliva from soiling. Sometimes fastened to skin of face and chin with collodion.

DONT'S IN DERMATOLOGY

1. Don't forget, while studying the eruption in order to establish a correct diagnosis, that the patient commonly requires to be studied also, to enable him to understand the proper basis for treatment.

2. Don't forget that to have a healthy skin the body must be healthy, and all its organs must perform their functions in a proper manner.

3. Don't overlook marital infection or hereditary acquirement of syphilis, although the latter seems to be much less frequent than in years past.

4. Don't forget that diet and hygiene may play a very important part, as contributory causes at least, in many eruptions,

and that when they are faulty treatment may be proportionately unsatisfactory.

5. Don't imagine that arsenic is a panacea for diseases of the skin; experience has shown that it has relatively little if any effect on most eruptions, although when combined with other proper treatment it does often aid in restoring vital tone to many portions of the body.

6. Don't simply give iodide of potassium when in doubt, or when a possible syphilitic nature of an eruption is suspected; if the eruption is due to syphilis it should be so diagnosticated and efficiently treated with mercury also, even to the end.

7. Don't fail in your duty to syphilitics, both in guarding against the infection of others and also in securing for them effective treatment, sufficiently prolonged, to guard them against the serious possibilities of neglected syphilis.

8. Don't attempt too much local treatment in any of the lesions of syphilis; if the disease itself is efficiently treated constitutionally, there is very little need of other than the simplest local measures.

9. Don't be too vigorous or active with local treatment in any disease of the skin, unless you are very well acquainted with the remedies employed and feel that you understand pathologic conditions of the skin of the patient well.

10. Don't forget that much distress, and often harm, is caused by too stimulating and irritating applications, and that the skin is a delicate organ when the epidermis has been removed or profoundly altered by accident or disease.

11. Don't suppose that any of the nostrums advertised for commercial advantage can have virtues above the remedies known to the profession, and do not employ them, as is often done, simply as a ready-made article of hoped-for value; whatever is known to be of value should, of course, be used by the profession.

12. Don't try to have too many remedies or combinations of remedies; it is better to have a few tools which one knows how to handle well than to have a vast number with which one is poorly acquainted.

13. Don't use nitrate of silver too freely or too frequently on superficial sores; those of simple character can be often thus stimulated into an epithelioma of serious character.

::: THERAPEUTIC NOTES :::

CHIMAPHILA IN DIABETES

Soules, in *The New York Medical Journal*, contributes a brief but interesting paper on the use of "Chimaphila in Diabetes." He employs a fluid extract, evaporated to the consistency of thick syrup, and administers a dram of this, representing four drams of the fluid extract, twice or three times a day. This dose is safe. In one case the symptoms reappeared eleven times, but the sugar disappeared on resuming the full treatment. The last time he increased the dose with the happiest results. This case was that of the doctor himself. He states that now he is on a full mixed diet without sugar or any symptoms of diabetes whatever. He has taken the remedy over two years, seeing little diminution in its good effects. Diet is necessary; the mixed diet is resumed gradually, and the medicine gradually discontinued.

A STUDY OF ASCLEPIAS

Leming, in *The California Eclectic Medical Journal*, says a study of asclepias suggests its field of action, as irritative or inflammatory states of the skin and mucosa, with dryness or fever and lack of elimination, exudation, pain and other evidences of disturbed capillary circulation.

He finds it most useful in pneumonia, pleurisy, enteritis and the acute fevers. It is a mild, kindly remedy, which enhances the action of any other drug in acute fever. It undoubtedly controls capillary congestion with irritation and exudation, and as an eliminant, through its power of equalizing the circulation, its action is indisputable. This action is exerted on the skin, kidneys, bowels and all eliminating organs.

It has been recommended in intercostal rheumatism, the first stages of pneumonia, and in the urinary suppression following scarlet-fever. Scanty, high-colored uine is a specific indication for asclepias. In chronic nephritis it has removed all traces of albumin, as well as the signs which lead to its employment, emaciation, dry skin, and an almost imperceptible, persistently itching eruption.

THE MISSION OF DOSIMETRY

In experimental therapeutics as in the pharmacodynamic study of other agents, the dosimetric school alone has shown the true way, at once safe and profitable. It is for the allopathic school to follow its steps, and put an end, in the Sanhedrin of chief priests and Levites, to the eternal and humiliating disagreements and infinite scientific divergences that tear its breast and wound the scientific unity, thus lessening the authority of the art of cure.—*Laura.*

DIET IN TYPHOID FEVER

Coleman gives his patients, daily, one and one-half quarts of milk, two pints of cream, one-half to one and two-thirds pound of milk-sugar, and three to six eggs. He concludes that partial starvation is highly detrimental to the patient's welfare. It is necessary that the patient be given sufficient food to cover his energy expenditures. The amount required for this purpose would be estimated approximately on the basis of forty calories per kilogram of body-weight per day.

Clayton of Washington said that if one once watched the effect of feeding these patients he would never go back to the starvation diet.

Stone of Boston reported fifty patients on the Shattuck diet with but one death.

Jacobi congratulated Coleman on the results, not to be expected from such a diet. He said it was impossible to expect a healthy person, far less a typhoid patient, to digest so much milk and cream. He had never seen more disorders of the intestines with indicanuria, acetone and diacetic acid in the urine than in patients who had consumed a great deal of fat in that shape. It was impossible for the average stomach to digest unmixed cream to that extent.

Anders of Philadelphia thought it significant that the profession no longer advocated the starvation diet. He attributed Coleman's success to the use of carbohydrates, particularly the milk-sugar.

Walker of Philadelphia believed the increased feeding of typhoid-fever patients had gone too far.

Woods Hutchinson did not go to Coleman's extreme. He gave typhoid patients an abundance of meat jellies, crackers, and ice-cream, and with excellent results.—*Medical Record.*

ANOTHER CANCER REMEDY

Bakkola is derived from a fungus which grows on the birch tree in Finland. A decoction is used for cancer, and has acquired a great reputation in that country. This fungus yields to alcohol an intensely yellow substance, which appears to be closely related to chrysarobin.

FACTS ABOUT CERIUM OXALATE

Baehr and Wessler (*Archives Int. Med.*, Jan. 15, 1909) from a series of researches on the manner of action of cerium oxalate find that it acts wholly locally and mechanically and is impotent against vomiting of central origin. Even the soluble salt, cerium nitrate, in no wise inhibited centric vomiting. It is therefore irrational to expect results from it in such reflex vomitings as occur during pregnancy. Their conclusions on cerium

oxalate are as follows: It is non-toxic; it has no inhibitory action on centric vomiting. In large doses it may inhibit vomiting due to *local irritation* of the gastric mucosa and should be given for this purpose in doses similar to those of bismuth subnitrate, whose action it resembles. It is not absorbed from the gastrointestinal tract. — *Ellingwood's Therapeutist.*

AMERICAN MEDICINAL PLANTS

Bulletin No. 139 of the Bureau of Plant Industry contains descriptions of thirty-five medicinal barks of the United States with suggestions as to their collection and preservation, and the current market price to be expected by collectors. Other bulletins from this bureau which may interest persons who contemplate drug collection or farming are No. 89, "Wild Medicinal Plants of the United States," price $0.25; No. 107, "American Root Drugs," price $0.15; No. 112, "Use of Suprarenal Glands in the Physiological Testing of Drug Plants," price $0.10.

The Department of Agriculture issues circulars listing the publications for free distribution, and those for which a small price is asked. These lists are both free, and can be had from the U. S. Department of Agriculture, Division of Publication.

COLCHICINE TO BREAK UP A COLD

Dr. T. C. Brassell of Cost, Texas, suggests the use of colchicine in half-milligram doses, hourly, to break up an acute cold. If the patient is an infant the same dosage is given to the mother. Results are said to be obtained in from twenty-four to thirty-six hours.

THE SULPHOCARBOLATES

Internally the sulphocarbolates are used largely as antiseptics, in almost any disease with indications for antiseptic medication. When the tongue is coated white or dirtyish white, where there is a general fulness of the tissues, the sulphocarbolates will be found to act admirably. Zinc and sodium are the salts most frequently used. A number of physicians are rather enthusiastic in the use of the sulphocarbolates in typhoid fever, and when used with this definite symptomatology there are no better remedies. —N. A. Graves, *Ellingwood's Therapeutist.*

SEND IN YOUR NOTES

We can add greatly to the value of this department if our readers will contribute short "notes" from their own experience. Jot down the item whenever and wherever it occurs to you, transcribe it clearly on a sheet of writing paper at the first opportunity, and "fire it in." It's up to you, Brother, to contribute your share of the scintillates. Therapeutics—mind you!

CHOLERA INFANTUM

The term cholera infantum should be restricted to cases presenting the true choleraic symptom-complex—excessive vomiting and purging of serous, rice-water fluid, with rapid wasting, the babe shrinking away almost visibly in a brief time, and cramps in the calf muscles as the blood becomes concentrated by the loss of its fluids. There is no time to be lost here. We can not wait to strike at the cause of the malady, but must meet the cardinal symptoms quickly and powerfully to sustain the life fast ebbing away. Only one remedy will do this, and that is atropine. This was introduced by Harkin of Belfast many years ago as the remedy for the similar condition as presented in true Asiatic cholera. He administered a full dose by hypodermatic injection, and secured notable success. Dr. Abbott adopted the principle and applied it in the cholera infantum so prevalent and deadly in our American cities, with like success.

Technically, such excessive discharges are induced by overexcitation of the pneumogastric nerve, and the remedy is a sedative to that nerve. No other vagus-sedative acts so powerfully and promptly as does atropine. Give a full dose—1-100 grain—hypodermically, and repeat if necessary, until the

face is flushed, showing the full effect of the remedy. The discharges will by this time have been arrested and the collapse averted, giving time for our gastrointestinal disinfectants to get in their work. Follow with the sulphocarbolates in full dose—they are harmless in any quantity and time presses, so be generous. And don't forget to speedily restore the lost water to the blood—hypodermic floods of normal-salt solution are in order, and these most quickly stop the muscular cramps, which are due to thickening of the blood.

JUGLANDIN

It is obvious that after removing from the irritated bowel the matter that irritates it, the first indication is the restoration of normal secretory function. Clear out the rotten, toxin-saturated debris by the use of calomel, gr. 1-10, with a trace of aromatics every half hour for seven doses; then follow with a saline sweep-out. This may be supplemented by a colonic flush with warm or hot water with a little zinc sulphocarbolate in it—gr. 1-4 to gr. 1 per ounce—passed beyond the sigmoid flexure with a soft catheter or a slender Wales' bougie. The more rectal irritation there is, the hotter should be the water. Then give juglandin every hour or two, to restore the normal, healthy digestive secretions from mouth to ileocecal valve, and probably including the colon. We have long desired a remedy that would fill the place of rhubarb without its bulk and uncertainty, and we have found this remedy in juglandin. It is effective, safe, uniform, and prompt—what more could one ask!

SOMETHING ABOUT CALOMEL

We may assume that calomel would never have been so abused had it not been a very effective and widely applicable remedy. It certainly does something; and it is up to us to know what that something is, and how we may apply it so as to secure useful results and do no harm. The indiscriminate administration of any drug without a clear idea of its action is not practising medicine but tampering with the human body in a manner not justifiable.

The tendency of laboratory experimentors is to limit the action of calomel to such antiseptic effect as may result from its conversion into corrosive sublimate. This explanation is entirely inadequate to account for the universal popularity of this drug among the older physicians, whose powers of clinical observation can not be calmly set aside. They believed that calomel incited all the digestive secretions, and the excretions, as shown by one of its many names—panchymagogus quercetanus. We often need a good panchymagog, and the entire medical profession found it in calomel. Were they all teetotally mistaken? Such a phenomenon would be so remarkable as to demand proof—it could not be accepted on mere assumption.

Since we have learned the importance of quantitative examinations of the urine, all the old remedies should be tested over with this aid. We are not content with the assertion that any drug acts as a diuretic, but demand to be told what ingredients of the urine it increases and to what extent, as well as under what circumstances. The most cursory examination of our texts on therapeutics suffices to show what lamentable gaps exist in our knowledge of drug-action. When we ask of the effect of drugs on the internal secretions, and on leukocytosis, and as influenced by the existence of various diseases, we find in very truth that we have not enough definite information to guide us in the application of more than a handful of drugs in the treatment of disease.

And yet men talk of the exhaustion of the field of drug therapeutics.

COPPER ARSENITE

An efficient intestinal antiseptic of special value in very young children in the acute summer troubles, where the stomach rejects everything, is copper arsenite. This may be dissolved in water and given in solution, in half-teaspoonful doses, gr. 1-5000 to gr. 1-1000. Small doses of atropine are also of value here, when there is cold, pallid skin.

The Imagination As a Factor in Disease

We are too much inclined to label this disease-condition or that, as reported by the patient, as being "imaginary". So says Dr. Dubois, the great Swiss neurologist—"father" of the Emmanuel movement—and tells why

WHEN a physician has a neurotic patient and tries to explain to him the psychic origin of some one symptom of the disease he often meets with a certain degree of opposition. A transient blush, a slight corrugation of the brow, some little impatient gesture, betrays an unexpected agitation on the part of the patient who but a moment before was full of confidence in his medical advisor. He feels offended because he thinks he is being regarded as an "imaginative" patient.

This ill humor will show itself still more plainly when the attempt is made to impress upon the patient the psychic nature of his malady and to preach the need of will-power and self-control. He then will give way to emotional outbursts, often accusing those near and dear to him of not understanding him and of loving him no more, while in time it may even come to a breach of peace and open discord between him and his family, which eventually may terminate in positive hatred.

And the patient is right—he is standing up for this very life. The meaning of the expression, "imaginary disease," was not at all clear in the mind of his friends when they used it, because they were lacking in psychologic knowledge; and for the same lamentable reason this concept was obscure to the physician also, because, despite his intimate practical knowledge, he did not yet know how to give clear expression to his thoughts.

When one speaks in an offhand way about "imaginary disease" it seems as though he does not believe in the reality of this disease, in the real pains or in other troubles characteristic of it. It seems almost that the patient is regarded as a simulator, or at least as one who exaggerates his ailments and complains of them more than is necessary.

There are indeed simulators and those who describe their condition as being far more grave than it really is, but we should not look for such people in the class of so-called nervous patients only. The simulator may, for instance, be a student facing an examination who prefers to excuse his absence on the score of illness rather than that of fear of failure. It may be a soldier who does not want to go on the march, or an accident-patient who exaggerates his claims, and so on. One may speak of "imaginary disease" when, as not rarely happens, the putative patient himself begins to believe in his sufferings and gets himself caught in the very net he himself has spread. But such people are seeming rather than imaginary patients. They do not suffer and are not to be pitied.

And the nerve-sick patient, just because he believes himself (mis-) judged in a similar

way, therefore strives against that false assumption and persists in declining the well-meant but clumsily expressed exhortations. And he protests altogether rightly, for his condition is entirely a different one. He does suffer indeed just as he declares and we have not the least reason and right to put a less estimate on his sufferings than what he does himself.

Whether his pains, his functional disturbances are of organic or purely psychic origin, they do exist—they are not fancied, they are not "imaginary," and therefore do these patients deserve full and genuine compassion. And those many physicians who harshly dismiss such pitiable patients, who ridicule and scold at them, only show that they emphatically lack the finer feelings, and that despite their apparent great intelligence, nay, even despite their high scientific standing, they have no understanding for the most simple psychology conceivable.

But while I acknowledge the right of these patients to defend themselves against the false imputation implied in the conception of the word, "imaginary," I can not agree with them when they attempt to discover the cause of their illness in purely material changes of their organs, trying to trace the origin of their sufferings exclusively to external influences and refuse to recognize the power of the thinking process, or, let us say, of "the imagination."

There is not here an imaginary disease; the troubles from which the patient suffers are real for him and plague him in very truth, even though no tissue changes are demonstrable. But the imagination does play an important part at the inception of a whole series of disease-phenomena; now, it may be, by the conception conjuring up the entire complex of symptoms, another time perhaps it may magnify an existing trouble, or by adding numerous new phenomena increase the number of complaints. Such ailments are not only common in themselves; but in almost every patient who suffers from some definite bodily disease, there too the disease-producing imagination is at play, endlessly complicating the aspect of the patient. Healthy persons, also, have sensations which do not arise from certain external irritations or caused by actual tissue changes, sensations owing their origin purely to the imagination.—Introduction to "Die Einbildung als Krankheitsursache", by Prof. Dr. Dubois, Bern.

HYPOPHYSIAL TUMOR AND ACROMEGALY

Dr. Alfred Exner presented to the Gesellschaft der Aerzte in Wien, at the session of January 15, 1909, a woman thirty-four years old whom he had presented before affected with acromegaly, to the same society November 30, 1908, and for whom he had extirpated since then a hypophysial tumor. The hypophysis was exposed by way of the nose, the dura matter was incised slightly, and the tumor curetted out with a sharp curet through the small slit, so that the tumor was not radically removed. Drainage was made by means of iodoform gauze, which drain, to prevent infection from the nose, was drawn through it. The nasal cavity was tamponed. Histological examination proved the tumor to have been a malignant adenoma.

A similar finding was obtained in another case which was operated upon a year ago, and since that patient is doing well it was not decided whether the present tumor really was malignant. The case now presented shows, after the operation, a decrease of the size of hands and feet, the teeth are coming closer together, the headache had diminished considerably, the thyroid gland, which could not be felt before, now seems to be about the size of a walnut, while the hair on the upper lip has fallen out.

Prof. Von Eiselberg stated that he had operated on four cases of tumors of the hypophysis. One of these patients, affected with acromegaly, died of meningitis consequent upon infection from the nose. In the three other cases there was no acromegaly and the hypophysial tumors were cysts filled with a chocolate-colored fluid. In another instance meningitis developed after the operation, and lumbar puncture gave a turbid serum with streptococci. After injection of antistreptococcic serum there was

great improvement so that now there is prospect of a definite cure.—*Wiener Medizinische Wochenschrift*, 1909, No. 4.

ANAPHYLAXIS

Dr. G. Froin, relying upon a number of clinical observations, shows that tuberculous serofibrinous pleurisy may in some cases present an evolution of certain cases that would make us think of the creation of a real anaphylactic condition. [Gould's "Dictionary of New Medical Terms," 1905, defines "anaphylactic" as (1) having the property of diminishing immunity instead of reinforcing it; (2) a serum which diminishes immunity.—THE GLEANER.]

Experiments have established the fact that tuberculous serofibrinous liquids possess a special toxicity which seems to be due to a new poison derived from the bacillus of Koch or from tuberculin, the socalled toxogenin. From the beginning of the appearance of this toxogenin there is created the anaphylactic condition or state. Through the presence of this toxogenin, which is found to be in correspondence (*en rapport*) with the substance that engenders it, there arises another new body, the apotoxin, which is far more toxic than the first one and which is capable of provoking a strong pleural reaction with an abundance of a serofibrinous exudation, fever, oliguria, retention of chlorides, etc. The period of this condition is frequently followed by a period of resorption, which seems to correspond with the production of a neutralizing substance, called an antitoxogenin.—*Gazette des Hopitaux*, 1909, p. 39.

ADRENALIN INTRAVENOUSLY IN COLLAPSE

According to the experience of Dr. B. Kothe, of the Hospital Moabit, of Berlin, adrenalin is the strongest analeptic which we possess at the present time. It is indicated especially in imminent acute disturbances of cardiac and respiratory actions. The dose is 1-2 to 1 cubic centimeter of commercial 0.1-percent solution of epirenan, which is the same as epinephrin. These intravenous injections are the most effective remedies in the severe collapses occasionally happening from lumbar anesthesia and narcosis as well as in surgical shock.

In hemorrhages and in peritonitis the injection of a combination of the adrenalin solution with salt solution is very useful. Adrenalin should be to hand, together with other excitants (camphor, etc.), at every case of stupor and insensibility.—*Therapie der Gegenwart*, 1909, p. 95.

TESTING STOMACH SECRETION WITHOUT THE STOMACH TUBE

The method is that of Meunier, reported in *La Presse Medicale* (1908, p. 42) and depends on the same principle as the desmoid reaction of Sahli. A gelatin capsule is filled with ether and is covered with a piece of caoutchouc tied with a fibrin thread. This is swallowed after the ingestion of an Ewald-Boas test-breakfast. If the fibrin thread is digested and the gelatin capsule dissolved then eructations of an ether taste and smell will be perceived. In the case of hypersecretion this will occur in less than an hour. In normal gastric secretion this will happen in somewhere between an hour and an hour and a half. If it is a case of hyposecretion more than this time will pass before this happens, while in achlorhydria the eructation does not occur at all.—*Wiener Medizinische Wochenschrift*, 1909, col. 1389.

TREATMENT OF CHOLERA INFANTUM WITH CARROT SOUP

In the *Jahrbuecher fuer Kinderheilkunde*, Vol. 69, No. 5, Dr. Karl Beck gives his experience in cholera infantum with Moro's carrot soup, prepared as follows: One pound of yellow carrots, cleaned and cut in small pieces, are boiled for between one and two hours. The pulp is then rubbed through a fine sieve and mixed with a bouillon made from one pound of finely-chopped beef with a teaspoonful of table salt, put into one quart of cold water and then set to boiling. This carrot soup was administered every three to

four hours, while no other food or medicaments were given. The result of this treatment, the author avers, was a rapid augmentation of diuresis, reduction of the fever, improvement of the evacuations, and increase of weight.—*Wiener Medizinische Wochenschrift*, 1909, col. 1384.

CURDLING OF MILK WITH RENNET

The milk of some cows, says Von W. Van Dam (*Zeitschrift fuer Physiologische Chemie*, 1909, p. 295), curdles regularly on the addition of rennet, but at times it will not do so, or only imperfectly. It was found that the cause of this refusing of milk to curdle is generally a deficiency of lime, especially colloidal lime. Upon adding to the feed calcium diphosphate the cow which gave noncurdling milk after three days would give nearly normally curdling milk.—*Apothekerzeitung*, 1909, p. 138.

EXTERNAL APPLICATION OF MEDICAMENTS

Penciling or brushing on ether and chloroform were tried for producing local anesthesia, but these agents act more as revulsives than as analgesics. Guaiacol (the active principle of creosote) seems to give good anesthetic results; it is applied locally over the painful area and then covered over with oilsilk. Dr. Ferrand uses guaiacol and glycerin in equal parts against intercostal neuralgia. In rheumatism methyl salicylate is frequently used for brushing over the painful joints.

These remedies do not greatly irritate the skin, even when covered over with an impermeable cloth, and cause the pain to disappear for some hours. When the pain reappears the application is repeated as necessary.

The mixture of guaiacol with glycerin has no effect on the temperature, the explanation being that the glycerin retards absorption although it does not entirely prevent it. Ferrand thinks therefore, that the mixture is best for anesthetic purposes, but for antipyresis the plain guaiacol should be used. Methyl salicylate is absorbed and is eliminated through the urine. All neuralgias may be treated in the same way.—"Formulaire des Medications Nouvelles," for 1909.

MEDICAL ANTISEPSIS OF THE URINARY PASSAGES

While in the surgery of the urinary passages the bladder is made aseptic with antiseptic liquids the aim in medical antisepsis is to antisepticize the entire urinary tract—the kidney, renal pelvis, ureters, bladder, and even the urethra—by means of the urine charged with medicamentous principles.

The medicaments most employed for this purpose are salol, sodium biborate, the balsamics and especially the terebinthinæ, all of which exert a certain antiseptic action. More recently hexamethylene-tetramin (or formin, or urotropin) have found employment.

Medicaments for the urinary passages should be administered in an abundance of fluid, in order to insure their reaching the upper urinary passages, the kidneys and the renal pelves.

Salol and borax are prescribed interiorly to the amount of 3 Grams (grs. 45) in twenty-four hours for adults. Sodium benzoate, urotropin or formin may be given in the same dosage.

These drugs are absorbed by the stomach and bowels and eliminated with the urine, which, being antisepticized, bathes the excretory passages with a solution of the germicide.

Under the antiseptic influence the pathologic secretions are checked, the pus diminishing or disappearing entirely. In suppurative affections (and other germs) of the urinary passages the use of antiseptics is demanded.

Frequently irrigation of the bladder and of the urethra is also employed, which combines the surgical way with medical antisepsis.—"Formulaire des Medications Nouvelles," for 1909.

The Treatment of Cholera Morbus

The heated season cometh apace: the cucumber flourisheth, the watermelon turneth its juicy refreshfulness to usward—and the ice-bill is a burden. Now is the season of great aches, verily of bellyaches, and for the doctor an opportunity to profit thereby

MY first experience with cholera morbus was as a patient, in the fall of the year 1873, when I was the victim of a severe attack, as the result of irregularities in diet and other insanitary conditions attendant upon a hot-weather journey by rail from Ohio to my home in Vermont. My physician was a man of experience and skill, but from my recollection, I am inclined to think that cholera morbus was a rare disease in Vermont at that time, however it may be at the present. His treatment was not successful in promptly checking the disease, nor in saving me from great suffering. I do not remember definitely in what it consisted, beyond the frequent application of mustard plasters to the abdomen, which caused much pain outside, but did not relieve that inside. I also remember that the disease ran quite a severe course, and lasted for a considerable number of days, leading my physician to express some anxiety as to the outcome. In due time I recovered, however, and I do not suppose that I was at any time in a specially dangerous condition, though I certainly was in a very uncomfortable one.

My next experience with cholera morbus was from the point of view of the physician instead of the patient; and I may add that I think that my previous personal experience led to a more vivid conception on my part of the sufferings of the patient and a more vivid desire to relieve those sufferings as promptly as possible.

In the years 1881 and 1882 I was practising in Simsbury, Connecticut, and whether it was due to extremely hot weather or to insanitary local conditions, it is a fact that I met with a larger number of cases during those two years than I have in any two years since. The cases were of all degrees of severity, some mild and some extremely severe, but all characterized by vomiting and purging, with more or less prostration.

During the prevalence of this disease, which was so common as almost to entitle it to be called an epidemic, I tried three different plans of treatment, and in the end came to have very definite ideas as to the best method of dealing with it.

I began with the older and more conservative plan, which was, I suppose, substantially the one which I had been taught in my medical schools and through my books and journals. It consisted in the administration of pepsin, bismuth, alkalis, opiates and stimulants by the mouth, frequently combined with hot fomentations and mustard plasters externally. I found this plan of treatment to be adapted only to mild cases or those which had safely passed the acute stage, as in severe cases and the acute stage no medicine would be retained on the stomach. At best, the patient required constant watching, and failures were frequent.

This was not satisfactory and I felt that I must find a better method of treatment, one that would give more prompt relief and speedy cure, if I wished to continue the practice of medicine in that community.

The second plan which I tried consisted essentially in the rectal injection of starch and laudanum, thirty drops of laudanum being the usual dose; and with this were combined any remedies of the previous plan which might seem desirable. I soon found this plan to be much more effective than the first, but the rectal injection often had to be repeated several times, on account of inability to retain it until it was absorbed. When it was not promptly successful, the patients were apt to lose faith in it and often objected to its repetition. Hence it was not fully satisfactory.

The third plan consisted in the hypodermic injection of morphine sulphate, one-fourth grain being the ordinary dose. It was usually unaccompanied by any other measures of treatment. This plan I found to be speedy, certain, satisfactory. Except in those very rare cases where all opiates are dangerous, it is perfectly safe if properly administered. Only in the rarest cases does it need repetition. Its effects are what our friend Dr. Robert Gray would call "a medical magic." I have used it in mild cases and in those which were severe; I have given it at the onset of cases which came on with the suddenness and severity of a shock, prostrating the victim instantly; and I have given it where the disease had gone on for days unchecked, bringing the victim apparently down to the point of death; and in every case it was successful, and never did any serious inconveniences result.

More than twenty-five years have passed, but I have never been able to find a better method. In fact, the results are so satisfactory that I have not felt compelled to hunt for anything better.

I don't know who originated this method. The only credit I claim in the matter is, that I knew a good thing when I saw it, and that I am doing what I can to pass it along.

In *The Eclectic Medical Journal* for July, 1906, an editorial writer gives the indications for and the results of this method of treatment in words so vivid and well-chosen that I will give them in closing:

"Long before the doctor sees the patient, the stomach and bowels have thoroughly emptied themselves, so that what he has to do in the great majority of cases is to stop the vomiting and purging and to give relief from pain first, and then relieve the irritation set up by the morbific elements. Now, there is a slow way and a quick way to relieve this patient. You may sit by his bedside administering medicine by way of the mouth, and see him pass rapidly into collapse and maybe die, or you can set things right in thirty minutes.

"The best thing that is to be done, and therefore the first thing, is to administer a hypodermic injection of 1-4 grain of morphine. This will usually give relief in from twenty to thirty minutes. The patient will stop vomiting and retching, the bowels will cease to move, the pain will subside, and the patient will sleep. When he awakens, he will feel sore and tender over the abdomen. He should now have whatever remedy is indicated to put him on his feet."

J. M. FRENCH.

Milford, Mass.

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[For the *relief* of cholera morbus the measures advised by Dr. French are orthodox—and sufficient. Personally I should prefer to associate atropine or hyoscyamine with the morphine, since these agents have a peculiarly selective sedative action upon reflex irritability of the intestinal muscles and check excessive secretion. If the case is a mild one a hot salt-water enema, a mustard draft over the abdomen and a dose or two of chlorodyne, in granule form, associated with a thorough saline clean-out, is good treatment.

We should not lose sight of the fact that these cases—most of them, at least—are really acute bowel *infections*. While nature provides its own purge, as a cure, in the majority of cases, the doctor should not take it for granted that the toxins have all been eliminated. A brisk saline purge, often with a hot salt-water enema, is usually indicated,

to be followed by intestinal antiseptics like the sulphocarbolates.—Ed.]

TREATMENT OF INFANTILE SUMMER BOWEL DISORDERS

Stop all feeding for twenty-four hours, or longer if needed.

Allow plenty of cool water for drinking in the *interim*.

Clean out thoroughly by saline enemas and purgatives with broken doses of calomel followed by either salines or castor oil.

Begin on second or third day to feed egg-albumin water, fruit juices in water and finally carbohydrate gruels, not returning to milk feeding until bowels are right.

Neutralize toxins by intestinal antiseptics (sulphocarbolates by preference.)

Control excessive peristalsis by codeine sulphate, fever by aconitine and restlessness by hyoscyamine. Keep room cool, dark and quiet.

Promote convalescence by nuclein and brucine as tonic if needed.

This will do the work, *cito, tuto et jucunde.*

That's my experience—make it yours.

W. C. Post.

Maquoketa, Ia.

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[There it is—in a nutshell! And all good, right and true.—Ed.]

SUMMER DIARRHEA: A CASE WITH A MORAL

I like the June number of Clinical Medicine and also the prospectus for July, but I want you to give a small space also, to the proper treatment of bowel diseases of children. Doctors have not all learned how to keep babies from dying of summer complaint, at least not in this section. We still hear reports of death "cholera infantum," "summer complaint," etc. The following experience will convey my idea:

I was called May 29, at 6 p. m. to see Baby B., aged one month, which had been under the care of another physician for diarrhea for one week, getting worse all the time. Its grandmother had gone to his office that afternoon at two, and told him she *must* have something to check the baby's bowels or it was going to die. He gave some tablets which looked and smelled like the old "sun cholera" mixture, and wrote: "One tablet every two hours," saying that was his limit—if that failed he was "done."

They gave one immediately, and soon became alarmed and called me at six. I found a very weak, anemic baby, suffering from mild narcotism; slow shallow breathing and pin-point pupils. The bowels had moved thirty times in twenty-four hours. I gave some minute directions about stimulants and artificial respiration, and calling again the next morning found that the dope had not checked the bowels in the least.

I stopped the nursing, giving only water and minute doses of brandy for twelve hours; also gave calomel, 1-20 grain, every two hours, alternating with this; the intestinal antiseptic tablets of sulphocarbolates, papayotin, bismuth subnitrate and sodium bicarbonate. This was ordered given every two hours, continuing until the stools got darker in color and firmer in consistence. I called again the next day and found the bowels had moved eighteen times and the condition was improved; continued treatment as above and next day the bowels had moved ten times and were much improved in color and consistence. Then I changed the medicine to every three hours; called next day and found only four actions, when the calomel was discontinued and the other prescription ordered every four hours. Then I discharged the case.

H. C. Chance.

Cumberland Gap, Tenn.

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[We have been urging the sulphocarbolates on the profession for more than a quarter of a century. That we say little about them at present is not because they are any more satisfactory than they always have been or because anything better or nearly as good has as yet been evolved. We have simply come to the conclusion that there are two classes of physicians, one being composed of those who will listen and heed, who are really anxious to improve their

methods of treating their patients; the other, of those who have no such ideas at all, men with whom the big "I" fills the largest place in their thoughts, and who instead of being grateful for hints which may help them save human lives are only jealous and angry; and if you attempt to teach them anything, they retort by telling you of something of their own which they think is better. They do not want to learn. If our correspondent will kindly tell us how to get this knowledge, which half the profession knows perfectly well, inside the skulls of the other half, we shall be greatly obliged.—Ed.]

HERE IS THE LATEST

A friend of mine in this city runs a large supply store for outfitting logging crews. Recently he received the following rather remarkable letter:

Dere Sur:

I am in a big hurry this morning. Plese sent 2 slabs of bakon, 8 sax sugar, I kaint cum down myself cause my wife hed a baby last night, an' 2 bales of hay, haf dozen cant hooks an' 50 feet of decking chain.

Yurs truly.

I submit that the three last articles were a little out of the ordinary even for a woman in Idaho.

Chas. S. Moody.

Sandpoint, Ida.

[We knew that Idaho was producing some remarkable men—our friend Moody is an illustration—but we have had, heretofore, no idea of the capabilities of the Idaho woman. Great Scott!—Ed.]

SPECIFIC MEDICATION

Do not become frightened at the term "specific." I am a "regular" physician, a graduate of a regular school of medicine. I have not a specific for any disease.

"Specific medication" teaches that there are no specifics for the diseases arranged according to the much-practised nosology. It teaches, however, that there are remedies which antagonize disease-processes or -expressions, morbid deviations from the physiological behavior of bodily functions, thus overcoming a pathologic condition with a disease-name.

To illustrate. The other night I was hurriedly called to join a priest who was called out to see a fourteen-year-old girl die. At my arrival I found the patient tossing from side to side and trying to get more air into the lungs. The face was pale, the breathing stridulous and spasmodic, the heart irregular and the patient in a semistupor. I administered 1-20 grain of apomorphine hypodermically. This was followed by vomiting and immediate relief of the dangerous symptoms." I cull this quotation from my last-year's record.

Did I treat diphtheria, true croup or false croup? I did not treat any of them. I treated a condition, *not a disease-name.* Indeed unto this day I am not so sure of the label I'd tack on to that disease. But even if I had then been able to name the disease, could I have done better for my patient? I did not treat the disease *per se*, for that would be like casting the devil out. I treated a wrong of respiration, there was obstruction to the passage of air into the lungs due either to a membrane or to a spasm of the muscles, or both. In any case, a strong emetic was the indicated remedy, and this I administered. Other treatment was instituted, resulting in ultimate recovery.

The specific medicationist administers his remedies to combat certain definite pathological conditions irrespective of any disease-name. He associates each of his remedies with a certain symptom or symptom-complex and indication of a specific or exact pathologic condition, which he combats. In relieving a symptom or symptom-complex he cures a certain pathologic condition of which a symptom is only an expression, and in curing one pathological condition he often relieves others dependent upon it; and, at any rate, he is always better able to relieve the remaining morbid conditions, thus ultimately effecting a cure.

Last summer I was called in consultation to see an infant in his second-summer suffer-

ing with acute ileocolitis. The patient was comatose; the eyes dull and half open, pupils *dilated;* the face was pale, extremities and face cold, pulse rapid and thready; the respiration slow and shallow, and the mouth very dry. It was altogether—except for dilation of pupils—the nicest textbook picture of opium poisoning I ever read. Indeed the patient was at death's door, for I could see, by the color of the face, the blood gravitating to the side next to the pillow. The little angel—for such it was—was suffering with acute ileocolitis and for which his physician was punishing him with opium at both ends of his alimentary canal, without success.

We stopped the opium, placed hot-water-bottles around the patient and gave 1-2500 grain of atropine every five minutes till the skin became red, after which the scene changed for the better. His physician came to see him in my absence and learning of the improvement following my small doses of atropine increased the dose to a 1-1000 grain; with what success I do not know.

The patient ultimately recovered. He was not at once up and well. I did not give him a specific for his ileocolitis or opium poisoning *per se.* I did not cast the devil out of him, but I gave him a specific for his *sluggish capillary circulation* which was responsible for and indicated by dull, half-opened eyes with dilated pupils, cool and relaxed skin and cold extremities. These latter symptoms, which indicate sluggish capillary circulation, make a picture which in the mind of every specific medicationist is closely associated with belladonna. Why? Look up the physiological action of belladonna in your "Materia Medica." It antagonizes congestion in small doses, and produces congestion in larger ones—which leads us to homeopathy; but this is foreign to the subject in hand.

By specific medication I do not mean homeopathy, but the eclectic treatment of disease. Pooh, pooh, as you may, the insignificant fact remains staring you in the face that given the above symptoms proclaiming capillary stasis in which belladonna alone is curative, 99 percent of the eclectics (or more) would give this same remedy, while 99 percent (or more) of your socalled regulars would not have given it.

Another significant but damning fact—for it is a matter of life and death— is that only a regular can be guilty, under the circumstances, of doping this little one with opium, utterly disregarding nature's signal of distress and approaching dissolution.

DR. M. SHADID, KIMMSWICK, MO.

Why only a regular? Because of the practicians of the different schools of medicine he is the least familiar with drug-action. I am a graduate of the best allopathic school of medicine west of the Mississippi river and speak from painful experience. But let us render unto Cæsar that which is Cæsar's. Let us doff our hats to the eclectic whom, in our littleness, we sneeringly, and by inference, term irregular.

Although I say I did not give the patient a specific for his disease, I cured him nevertheless—yes, I snatched him from death's door; for by "equalizing the circulation" I aided in "feeding the tissues," "stimulating innervation," "eliminating waste," etc. (as Brother Abbott puts it), thus giving nature a chance (which she would never have had under the purely regular) to repair the injury and overcome the disease, and which she did in due time, to the ever-

lasting joy and happiness of the father and mother below who were downcast and weeping and also, I believe, to that of the Angel above, if there be any.

Each symptom or symptom-complex suggests to an eclectic a given remedy irrespective of the disease. From this however it must not be inferred that the disease is an entity; if it can be so called carries no weight in the treatment; for sometimes, or rather very often, the grouping of the symptoms under one disease-name suggests a class of remedies likely to be used or indicated.

For instance, I was called last June to attend a thirteen-year-old boy bitten by a copperhead on the dorsum of his right hand. The boy was seemingly collapsing, the hand was greatly swollen to the wrist and the skin very hot and smooth; the temperature was 97.5° F., pulse 84 but weak, extremities cold, the face pale and perspiring, eyes dull, and there was emesis. Among other things I administered strychnine sulphate hypodermically, gave milk and whisky, placed hot-water-bottles around the patient and a tourniquet below the elbow. Immediately after administering strychnine I made a cruciform incision along and between the snake's fangs, applied pure specific medicine, echinacea, locally on cotton and gave the same by mouth.

Why did I give echinacea? Because some "irregular" "gives the history of 613 cases of rattlesnake-bite in men and animals, all thus successfully treated. With the courage of his convictions upon him he injected the venom of the crotalus into the first finger of his left hand; the swelling was rapid and in six hours was up to the elbow. At this time he took a dose of the remedy, bathed the parts thoroughly and lay down to pleasant dreams. On awakening in four hours the pain and swelling were gone." (Ellingwood's "Materia Medica."

I admit, I did not see any special indication for echinacea, but the disease-name "snake-bite" with its attendant blood poisoning suggests echinacea; for echinacea is a remedy for blood poisoning. On the same theory I treated eight cases of typhoid fever last summer, using echinacea from first to last for its systemic effect together with the sulphocarbolates with of course a saline laxative as needed. All the patients recovered in from two to six weeks. And throughout the period of sickness there were never at any time any alarming symptoms of any kind. Indeed they got on so nicely as to make some of the patients' friends doubt my diagnosis. I will state, however, that I used sodium bicarbonate with one patient and baptisin with another, as I saw the indications for them.

One advantage of specific medication is that it makes one a better doctor, because it makes him a better observer of the signs and symptoms of disease and gives him a better understanding of the pathological conditions of which these signs and symptoms are the outward manifestations, and when one learns the physiological action of a remedy he will naturally learn to associate that remedy with certain pathologic conditions.

This most surely is no small advantage, for it is much easier and more rational to associate a remedy (bearing in mind its physiological action) with a symptom or symptom-complex than to learn to memorize one or several formulas for each disease; for there is no classification of disease that is not a makeshift at best.

Another example. Mr. M. came to me last summer complaining of diarrhea that had lasted for two weeks. He was weak and exhausted; temperature below normal; circulation embarrassed; a little tympanites. I made no diagnosis. There was a certain beefy redness of the tongue that the eclectic associates with an acid; and this I gave, directing him to place so much of the medicament in so much water and to drink the same *ad libitum*. On the evening of the same day the patient returned and stated that the diarrhea had ceased and he was feeling as well as ever. Hydrochloric acid was given, and no other medicine. The redness of the tongue, so say the specific medicationists, is a symptom denoting hyperalkalinity of the body-fluids which is easily corrected by an acid.

Another one of the many advantages of direct medication is that it enables one to treat his patient before he is really able to call the disease by name, sometimes aborting the coming storm; and failing this, so to influence the course of the disease as almost to insure a favorable outcome. I have many times jugulated pneumonia in the stage of congestion, as I already have shown in the article printed in the June issue of this journal.

Do I see you grin? Better not! That is a poor argument and often a sign of obsequiousness and mediocrity. Rather get out of the old rut; cease crooking the knee to textbook writers and self-appointed "authority." Do a little thinking. Away with medical orthodoxy. Don't be a slave. Be a *real* doctor.

M. Shadid.

Kimmswick, Mo.

VERATRINE IN ECLAMPSIA

I was called June 20 to help a young doctor in a case of puerperal eclampsia.

The woman, married one year, had just come out of her first convulsion. I told the doctor to push the chloroform as the patient was partly under it. We delivered her in lightning time of a fine baby-girl. The patient continued to have convulsions until Monday, June 21, 10:30 a. m., when she had the last one.

It seemed she would die in spite of our best efforts. She had twelve convulsions in all. Last night her pulse ran from 140 to 160. By this time we had associated an older physician with us, who thought the woman's general symptoms and the rapid pulse indicated brain trouble, and suggested a blister or venesection. We compromised on a hot sitz-bath. The temperature never went above 102°F.

I suggested veratrine to effect, and we gave it. Both my colleagues were using the dosimetric triads, the defervescent compound and the alkaloids, but had not that precision of judgment which comes from the eye long accustomed to sight down a single barrel, hitting the bull's-eye nearly every time. My younger brother was compelled to leave me with his patient last night, and we fully agreed to give veratrine a fair and impartial test. We agreed to give one-milligram doses as often as I thought best; so here is where the real test began.

We had been compelled to catheterize the bladder every four to six hours. The urine was loaded with albumin. I was compelled to give one last quarter-grain of morphine at 9 p. m. At 8:45 I gave veratrine, half a milligram, at 9:30, 10:00 and 11:00, repeating the dose; then the doctor returned with a trained nurse. They continued the veratrine every one to two hours all night, and until today at noon, June 23. The pulse is now 90 to 100 per minute.

This is another triumph for veratrine. I have an abiding faith in it.

I once gave a teaspoonful of liquid veratrum viride to a patient, when I knew nothing of veratrine. He lives today. I gave it to another patient until with every dose she would throw up and sweated like a horse. The husband told me the medicine would surely kill his wife, but I said she would die without it, so he must take his choice. He did, and she still lives. I have delivered three women while they had convulsions (one pair twins), and all three women still live. In all three cases I was only called when the emergency became pressing. Up to date, within fifteen years, I have not seen a puerperal convulsion where the patient used the mixture of sodium acetate, chloroform and benzoic acid, and kept on a buttermilk diet.

What do you think of a hypodermic tablet of veratrine, grain 1-12?

S. D. Wetherby.

Middletown, Ky.

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[The difficulty in inducing physicians to use veratrine for puerperal convulsions is that veratrum viride, when of good quality, is so good a remedy that they cannot believe anything better. Nevertheless Dr. Wetherby's is a typical case. He had learned to use veratrum viride, and knew how to use it, with not a failure and fully understood the emergencies which demanded it. Never-

theless he was still open to conviction. His brain had not hardened, and he was willing to try if there was something better; even better than that old standby, and he found it in veratrine.

I do not approve of the tablet of 1-12 grain, believing that one milligram is enough to begin with, and it is quite easy to dissolve five of these tablets if necessary, whereas if you use 1-12-grain dose in a single tablet, there is always the tendency in a physician to use too much; and veratrine is too powerful a remedy to use recklessly. It is much easier to repeat a dose than it is to obviate the effects of one that is too large. —Ed.]

CALCIUM SULPHIDE IN SKIN DISEASES

After all is said, *experimentia docet*, for it defines in a word the very foundation upon which rests the whole up-to-date practice of medicine, and the scientific method by which it has been exhibited and developed.

My experience with calcium sulphide has extended over a long period, 25 years or more, and the longer I use it the better I like it in nearly all forms of skin diseases, and especially in old chronic forms of eczema, pemphigus, psoriasis, acne and lichen planus.

We may boast of our knowledge of etiology of a great many diseases of the skin, notably of lupus, scabies, tricophytosis, and the whole series of exanthemata, but we actually know extremely little of the socalled idiopathic eruptive diseases, the wiseacres of the Vienna school to the contrary notwithstanding.

We speak of the poor anemic class of patients who suffer from cutaneous affections due to want of proper environment, such as poor diet, foul air, uncleanly habits, but it is a well known fact that acne, lichen planus and a majority of the forms of eczemas are prevalent among the better classes, these occuring rarely in hospital clinics and dispensaries.

Absolutely no true assignable cause can I detect in lichen planus. I have had physicians, bankers, merchants, clergymen, college professors, lawyers and other professional men who have appeared to be in perfect health otherwise, but who were afflicted with some eruptive disease the etiology of which could not be exactly defined.

Every case should be treated upon its own merits, but in all acnes and squamous forms of eczema I employ calcium sulphide to saturation. For topical applications I exhibit the remedies as suggested and applied by the Vienna dermatologists, particularly Unna's ointment, containing about 4 percent of carbolic acid and 2 percent mercury bichloride, though I rarely depend upon it alone—only as an adjunct. The combination is splendid, however, as an application to the corneous forms of lichen planus and the hypertrophic eczemas.

Of course I do not rely exclusively upon these methods of treatment for I often give the socalled reconstructive, restorative and general tonics such as codliver oil, strychnine, etc., and I very often use the alkaline diuretics, eliminants such as a saline laxative, and occasionally malt preparations.

Saturate the whole system with calcium sulphide, keep the bowels moving, as suggested by my good friend, Dr. Waugh, give plenty of cold water ten minutes before breakfast and a glassful as hot as can be taken ten minutes after. Then rest easy as to the final results.

W. R. Inge Dalton.

Seattle, Wash.

EXPERIENCE WITH CALCIUM SULPHIDE

Case 1. *Gonorrheal Rheumatism.*—Family history negative. Previous history, acute anterior urethritis, duration three weeks, no complications four years prior to present illness. Slight "rheumatic twinges" in left hip on exposure to dampness and cold during past two years.

Present illness (February 13, 1909), mild acute urethritis for past three weeks, with tenesmus, frequency of urination and slight purulosanguineous discharge. During past two days these symptoms have become much worse; now there is great tenesmus with urination, occurring every fifteen to thirty minutes, and purulosanguineous and at

times almost clear bloody discharge. No pain or sense of fulness in rectum or perineum. For the past week there has been some pain in the left hip which has become very severe during last two days and is of a deep, lancinating, shooting character, confined to the joint and occasioned by slight movement.

The patient is nervous, hysterical; tongue coated; temperature normal. Left hip seems slightly fuller posteriorly, no redness, slight sensation of heat, acutely tender just behind trochanter on deep pressure; extreme muscular spasm and pain on slightest motion.

Treatment consisted of calomel and podophyllin followed by a saline laxative, then the sulphocarbolates, calcium sulphide, 2 grains every hour, codeine, gr. 1-2, as needed for pain. Hyoscine, morphine and cactin, half-normal dose, was required at night for the pain.

Feb. 14. Bowels acted thoroughly. Tenesmus slightly less marked. Discharge more bloody. Pain in hip and spasm continues. Calcium sulphide and sulphocarbolates continued. Methylene-blue added. Two anterior injections of 25 percent argyrol given. Hyoscine, morphine and cactin again required at night on account of pain.

Feb. 15. Urethral symptoms clearing up, less tenesmus, frequency of urination, eight to ten times in twenty-four hours; pain in hip less; spasm less. Calcium sulphide and sulphocarbolates continued. Medicated sedative urethral bougies inserted once in twenty-four hours.

Feb. 16. Urine practically clear; very little tenesmus; frequency five to six times. Pain in hip almost gone; some twinges in left knee and foot, but no objective symptoms other than slight tenderness on deep pressure. Patient walked to toilet. Calcium sulphide, 20 grains during daytime continued. Urethral bougies continued.

Feb. 18. Against orders the patient took a drive and suffered a relapse, which kept him in bed two days. Calcium sulphide was continued. All urinary symptoms are cleared up. February 23. Pain in the hip only on exertion. Knee and foot pain entirely gone. Calcium sulphide combined with the triple arsenates and nuclein continued. March 1: All symptoms entirely removed except slight occasional twinges in the hip on exposure to cold. The patient was entirely cured in about one month notwithstanding resumption of unfavorable occupation about ten days after the acute symptoms set in. There has been no recurrence. The cure has seemed to me remarkable.

Case 2. *Furunculosis.*—This patient had one large furuncle in the suppurative stage, and one fairly well advanced and several others making their appearance. I cleaned out the intestinal tract thoroughly, following with calcium sulphide, 1-3 grain every hour. The large furuncle was opened on the following day and discharged sero-pus, unlike the usual thick yellow pus of furuncles. It cleared up in about four days, while the other furuncles were aborted.

Case 3. This patient presented two furuncles, one as large as the tip of a thumb and fairly well advanced, the other smaller and just becoming well indurated. Both were aborted by treatment similar to the foregoing. R. O. B.

New York, N. Y.

CALOMEL AND TYPHOID FEVER

In a late number of Clinical Medicine a correspondent speaks about calomel in typhoid fever. Some thirty years ago Dr. Whitcomb of South Royalton, Vt., a man of large experience and a close observer, told me that in a 40-years' practice he had never known a case of hemorrhage from the bowels except where calomel compound cathartic pills or other drastic purge had been given. Thanks, I believe, to this bit of information I have never had such a case in my own practice.

I might say that for the last sixteen years I have been where calomel is used freely and even the Woodbridge treatment is advocated. The temperature may be lower —as it is said to be—but I have known of many deaths about here, and without exception the immediate cause of death was hemorrhage from the bowel.

Calomel is especially active in typhoid fever. If there is a suspicion of typhoid I say, *don't* give it.

The tendency to overaction of even the mildest cathartics may often establish the diagnosis very early in doubtful cases.

W. P. Sweet.

Southern Pines, N. C.

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[It is our belief, based upon experience, that when the patient is seen early in the disease it is of the utmost importance to clean him out thoroughly. At this stage the use of calomel not only does no harm but is probably more effective than almost any other cathartic that can be given. It is not only a thorough detergent, but it releases the hepatic secretions and itself acts as an effective intestinal antiseptic. Usually it is best followed up with the saline "clean out", and sometimes it may be a good plan to use the enema, to insure complete emptying of the bowel.

Only when typhoid fever is well advanced can the small repeated dose of calomel do harm and that is in the second week of the disease, or later, when the bowel is badly ulcerated. At this stage severe peristaltic action may undoubtedly be dangerous. But even at this period in the disease it is essential to keep the *primæ viæ* free from fecal matter and its poisons by saline purgation, rectal enemata, etc. The sulphocarbolates are, of course, indicated throughout.—Ed.]

A POSTGRADUATE AT HOME

December 9, 1908, we received our charter from the State of Ohio, legally incorporating us as The Youngstown Postgraduate School of Medicine and Surgery. The objects of the school primarily are to teach ourselves and become proficient in the foregoing subjects and to take advantage of the law of the State with reference to procuring anatomical material for the purpose of dissection and operative surgery. The corporation is one to be operated without profit. The incorporators are: Drs. H. B. Hills, T. J. Arundel, H. McGarvey, A. D. Green, J. K. Hamilton, J. W. Veach and E. W. Coe.

The Board of Trustees consists of ten members, as follows: Doctor H. B. Hills, president, eye, ear, nose and throat; Dr. A. S. Green, vice-president, obstetrics; Dr. T. J. Arundel, secretary and treasurer, materia medica and therapeutics; Dr. H. McGarvey, professor of anatomy; Dr. H. H. Thies, professor of pathology and bacteriology; Dr. J. K. Hamilton, professor of physiology; Dr. J. W. Veach, professor of gyneocology; Dr. E. W. Coe, professor of operative surgery; Dr. S. E. McCurdy, demonstrator of anatomy; Dr. G. W. Ryall, orthopedics and diseases of children; Dr. E. W. Shaffer, internal medicine and therapeutics.

We meet almost every evening, from 8 p. m. to midnight, in our anatomical room, and we are having two or three lectures a week from some of the doctors on their various subjects. To say this is doing good is putting it very mildly. We have as enthusiastic, earnest, hardworking a bunch of doctors as you will find anywhere. It has put new life into us, and we are helping each other out of our individual troubles, while the best of all it is the putting of dollars into the pockets of everyone of us—for the reason that we are becoming more proficient, as physicians and surgeons. We have had more anatomical material than we could use, and as soon as circumstances will permit we want to extend the benefits of the organization to all legal practicians of our city and surrounding country.

My advice to the physicians of every community is to organize a study-class, if they cannot do better. You will be surprised to find out what a lot of jolly good fellows your neighbors in the profession are when you get acquainted with them. And you will be surprised at what a lot of good practical things they can tell you about, that you don't know—and perhaps your greatest surprise will be similar to my own, namely, how d—— little I knew myself. And right here has been our incentive to get busy and keep busy along above lines. If we miss a call we don't worry because we know we shall be better able to care for the next one we do

get. Upon looking over the list I find three homeopaths, one eclectic, eight regulars. I'll bet dollars to doughnuts that if you met with us you could not tell which from t'other. H. McGarvey.

Youngstown, O.

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[The physicians of Youngstown are doing a work which should be and could be emulated in almost every county medical society. "Splendid" is the only word strong enough to describe it. It should be an inspiration to many others.—Ed.]

GELSEMININE IN NEURITIS

Dr. Ewin's experience with gelseminine (Clinical Medicine, June, p. 695) was far different from mine. The doctor states that in a severe case of musculospiral neuralgia he got good results from 1-125-grain doses of this usually very efficient medicine. But I have been suffering for over four weeks with a most obstinate attack of localized neuritis and sciatica, involving the entire nerve, and I used gelseminine in most heroic doses without the slightest relief. I believe neuralgias must force themselves out! I have exhausted the materia medica and nothing has really benefited me, and only the most heroic doses of morphine made life endurable. Hot applications did not give even temporary relief, in fact seemed to increase the pain. After saturating myself with salicylates, iodides, etc., it was suggested to try simple burdock (lappa, major), and I must say that remedy gave more decided beneficial results than anything I have taken.

Some eighteen years ago I had a most exaggerated attack in the same limb. I suffered the most "exquisite" agonies for three months, and all remedies were inefficient to arrest or cure the disease. I have concluded from painful experience as well as observation that neuritis will sometimes resist our most energetic efforts and suddenly subside with little if any treatment.

Let us hear from your readers about similar cases. Joseph S. Baldwin.

Freeland, Md.

[Surely, because neuritis is toxemic in origin and the treatment must begin with elimination. Multiple neuritis is very often due to alcohol, but not to the direct action of alcohol on the affected nerves. When alcohol is imbibed the liver drops all other duties and devotes itself to the task of intercepting the alcohol and throwing it out of the system. Meanwhile certain toxic elements of the food slip past this guardian of the portals of life and escape into the circulation. Hence the increase of urea and uric acid excreted with the urine when alcohol is taken. But before the kidneys can excrete these toxins they have circulated in the blood and exerted their harmful power, mostly on the delicate, highly sensitive nerve-cells and fibers. Hence in all neurites and neuroses begin by clearing the bowels, opening wide the channels of elimination and disinfecting the *primæ viæ;* meanwhile regulating the intake of food and drink. Then gelseminine will not disappoint you.—Ed.]

INSOLATION

In the Philippines we rarely meet with either heat-exhaustion or true sunstroke. Instead, we often meet with a form of trouble which is designated "insolation." It is caused by the actinic rays of the sun, not by its heat. One woman, on board a steamer at sea during the monsoon, brought it on by basking in the sun to get warm. The symptoms are subnormal temperature, asthenia and irregular heart-action. The effect is first noticed on the day following the exposure, and is very persistent. After one attack the patient is apt to be weak and very susceptible to the sun and to all infections as long as he remains in the tropics.

Treatment is symptomatic. Quinine is generally given, but I have never seen any benefit from it, except where malaria coexists. Cactin is *the* remedy, when there is the sensation of a constricting band around the heart. When this sign is absent, it is useless, and digitalin is best for the heart. Zinc valerianate seems to bring up the temperature better than anything else.

Strychnine valerianate has proven rather disappointing to me. The arsenate is better, and the triple arsenates are the best tonic, for the cachexia, of anything I have tried.

C. F. MORRISON.

Springdale, Wash.

HOPE SEES A STAR

There are times when the sky of our world is o'ercast,
And troubles and sorrows crowd on thick and fast;
There are days when the future looks misty and dim,
And the cup of misfortune is full to the brim;
There are hours when all earth appears dreary and bare,
And our lot seems o'erburdened with great loads of care;
There are moments that come in the lives of us all,
When calamity hovers, and hangs like a pall;
But while we thus grope in the dark night of fear,
'Tis *hope* sees a star shining brightly and clear.

Tis *hope* tells us ever to strive with our might,
And keeps up our courage to win in the fight;
'Tis *hope* bids us always to push on like men,
And as oft as we fall, we may rise up again;
'Tis *hope* brings us cheer, and gives us more heart,
To look for the bright side and take a fresh start;
'Tis *hope* dulls the sting of remorse and regret,
And helps past the places which worry and fret;
Oh, rob us of *hope*, and our day turns to night,
But *hope* sees a star shining clearly and bright.

HOMER CLARK BENNETT.

Lima, Ohio.

THE "NATURAL-BORN DOCTOR" AND SUCCESS

I was amused at Brother Taylor's idea of success. (See March munber of *The Medical World*.) Dr. Taylor ought to know what success in the practice of medicine means, but he has some trouble in defining what manner of man is a success. He says the successful physician is born; not made. I have seen a few of these "just-born" doctors but they did not fill my idea of success.

I remember one who was said to be a "natural-born doctor," and it was said of him that he could diagnose at sight any malady common to his locality. While other doctors were uncertain he could tell them instantly what was the trouble.

He was a heroic doser. He would give a pill containing 2 grains of calomel, 1 of podophyllin, 3 of leptandrin and 4 of gamboge, and direct that these pills be given one every two hours, until the bowels moved freely. Now you can have some idea of the results. The patient (if not dead) after cramping, puking and purging a day or two would report as follows:

"Doctor, I am better, but that medicine liked to have killed me."

"Yes, yes; but you know medicine must make you a little sick in order to do you good. See?"

Now, the secret of this man's apparent success was an ignorant clientele. People have learned better since then and this heroic doser could not pull the wool over their eyes now. I have in mind another old-timer who was practising medicine here when I came in 1876. He was said to be the best doctor in the country. One day a German came into a drugstore where the old-timer was filling up on "wet goods" and said: "Doctor, I feels mighty sick. Can you give me something?"

"Yes," said the old-timer, without making any examination whatever of the man. Calling to the druggist, he said: "Put up 20 grains of calomel and 20 grains of ipecac in two powders. Let this man have one now and the other in two hours."

Three days after this the German came back to the store—a sadder but also wiser man. When asked by the old-timer, "How are you, Dutchman?" he replied: "Oh, Oh, Doctor, I feels mighty weak. I only took one of dem powders and I believe if I had taken the odder one it would have killed me."

"Well," said the old-timer, "who in h-l would have cared if it had? A damned Dutchman more or less in the community doesn't matter. Now if you had been some good woman and I had killed you then I should have regretted it, but being only a Dutchman, it's all right."

Two *successes?*

I doubt if any two of your readers have the same idea of success. You say Lincoln was a success. No one ever thought so while he lived. Does a man have to die or get killed in order to be a success? All

great republicans except Teddy are dead —at least no one ever said anything about their greatness until after the funeral. Lincoln was called an accident, Grant likewise, but they are great men now. I tell you what I think. If people want to worship or do something for a man, let them do it while he is living. What good do flattering encomiums do the dead? I tell you right here, if you anticipate saying or doing anything useful for me I want you to do it now while I am living. See? I am a little off the topic, but my idea of success is *submission*. If a man could get in harmony with God, with his neighbor and himself he would then be a success; but as this is impossible, the best thing he can do is to submit to the inevitable.

W. P. Howle.

Charleston, Mo.

[Just suppose you feel you can not possibly get in harmony with yourself till you go out and lick the daylight out of some chaps? Submit? Not much. Davy Crockett said: "Be sure you're right, then go ahead." We are sure we are right, we are going ahead, and we'll keep going ahead until the truth of our tenets is established universally.—Ed.]

MYALGIA AND ITS THERAPEUTIC PROBLEMS

In Dr. Waugh's article on Myalgia, page 323, 1908, The American Journal of Clinical Medicine, he states that the bowels must be kept clear from the first and throughout the course of this malady. He also says that salines are not well suited for these cases and mentions sulphur and cascara. Dr. Wm. M. Gregory, The American Journal of Clinical Medicine, page 455, 1909, referring to the same article suggests another mild purgative.

Potter's "Materia Medica, Pharmacy and Therapeutics," 1906, page 118, states that ammonium chloride has decided cholagog properties, increases the excretion of urea, and that it is purgative in 20-grain doses.

Now, as Dr. Waugh mentions 60 to 90 grains of ammonium chloride to be given as each day's dosage, where will the need of any further purgative come in? Don't you think that more stress should have been laid, when speaking of the ammonium chloride, upon its double action, and upon the fact that with this remedy purgatives are not needed? Am I right or am I wrong? Please let me know.

I am condensing a great number of these good things in The American Journal of Clinical Medicine into a brief and more easily read but thorough book, and this point struck me forcibly.

I have Waugh-Abbott's "Alkaloidal Practice", Shaller's "Guide," Waugh and Abbott's "Alkaloidal Therapeutics," Candler's "Every-Day Diseases of Children," Abbott's "Alkaloidal Digest" and The American Journal of Clinical Medicine. Say! They are all winners! Money could not buy them from me. I have diagnosed cases that five and six older men fell down on; I have successfully treated cases that were pronounced impossible. The credit is not far to seek.

The alkaloidal granules are wonders.

The clean-out, clean-up and keep-clean method is correct.

Equalizing the circulation is extremely important. Abbott has proven this to us and shown us how.

The active-principle treatment is the only sure way.

The American Journal of Clinical Medicine beats them all; I could not do without it. I read it from cover to cover before I let up.

The Post-Graduate Course is excellent, everything plain and thorough.

The plea for a square deal is all right.

M. G. R.

——, Ontario.

[As to your remark that more stress should have been laid upon the double purpose of the ammonium chloride, I think you are right. Nevertheless, when I wrote the paper on "Myalgia" my object in prescribing sal ammoniac was not to procure a purgative action, but to call attention to the very marked relief of pain following those large

doses. I purposely avoided going into the question of how this relief was secured; but I am satisfied that much of it is due to the action of this salt upon the bowels. But, Doctor, I have talked about "clean-out, clean-up and keep-clean" so long and so much that I grow sensitive on the subject, fearing that people will look upon it as a fad of mine; hence I am disposed to avoid making this direct application, but leave it rather to the readers to do so for themselves.

Thank you, Doctor, for your very kind expression in regard to our publication. If all the people who read our journal were like you, Doctor, it would be a whole lot easier for us to accomplish our work.—Ed.]

DR. MILLICAN MOVES FROM CHICAGO TO VERMONT

Dr. Kenneth W. Millican, formerly editor of the *St. Louis Medical Review* and for the last two years associate editor of *The Journal of the American Medical Association*, has severed his relations with the latter journal and removed to Fairlee, Vermont, where he will spend the summer. Dr. Millican is a very enthusiastic student of Esperanto and I am sure will be pleased to correspond with any of our readers who have commenced the study of this language through the lessons published in the columns of Clinical Medicine. Any who desire to become members of the T. E. K. A (World-Wide Esperanto Physicians' Association) and subscribers to the *Voĉo de Kuracistoj*, the official organ, should send Dr. Millican $1.00.

PILOCARPINE IN A CASE OF ERYSIPELAS

On March 9, last, one of my patients telephoned me to call at his shop to see one of his bookkeepers. I found the patient, Miss C., age 35, with a well-marked case of erysipelas of the nose, showing severe prostration, fever 101°F., pulse 100, full and bounding, and having the right parotid and the submaxillary glands greatly enlarged and exquisitely tender. I sent her home to bed with defervescent compound for the fever and nuclein and calcium sulphide for the systemic toxemia.

The following morning I found the fever 100°F., and the bowels had acted well on four calomel, podophyllin and bilein pills taken the night before. I then produced a bottle of hypodermic tablets of pilocarpine nitrate, gr. 1-6, remarking to the patient's employer, who was present, that I should give her a remedy which would make her sweat and break up the attack. He replied that he had known Miss C. for twenty years and had never seen her sweat yet. Accordingly I gave 1-6 grain for the first dose, and dissolved two tablets in a glass of water, giving a teaspoonful every fifteen minutes. After the fourth dose a profuse sweat broke out all over the patient's body and the erysipelas began to recede.

Everything progressed favorably until the 12th, when the patient's stomach began to reject food as well as the medicine, which I had doubled in strength and ordered at longer intervals. Small doses of cocaine hydrochloride temporarily checked this symptom, but I had thirty-six hours' anxiety before I got things quieted down. As soon as the stomach was settled I returned to the pilocarpine, one milligram in solution, just often enough to keep the sweat standing on the brow.

The evening of the 13th there was great improvement, and at noon, the 14th, I discharged the patient well. Subsequently her employer told me he had heard of four or five cases in Brockton treated by the old methods which ran a severe course of from ten days to almost three weeks. He says he will always recommend erysipelas cases to me for the alkaloidal treatment.

Malcolm Dean Miller.

Boston, Mass.

—

[Dr. Miller's experience has been my own in every case of sthenic erysipelas treated with pilocarpine for many years. I have learned to look upon it as one of the certain specifics in medicine, equaled only, if at all, by quinine in malaria, mercury in syphilis, and the sulphides in gonorrhea. I feel disposed to add a fifth to the list, and

that is atropine as a hemostatic; but more time is required to test the latter, although up to the present time it has fully equaled the other four.

Dr. Miller followed the true alkaloidal idea, not sticking to the one remedy, even though it may be deemed specific, but administering such remedies as the patient's condition called for. In this case it was the defervescent combination, but had the case been asthenic he would have employed the dosimetric triad of Burggraeve. Nuclein and calcium sulphide were distinctly indicated and undoubtedly aided in effecting the cure.—Ed.]

A CASE OF HYDROCEPHALUS

If not too late, I have two interesting cases to report in the next issue of your valuable publication. One (of which I send photograph) is of a child with a remarkable case of hydrocephalus. This photograph was taken in March, a year ago, when the child was only fourteen months old. The head measured at that time 33 1-2 inches, anterioposteriorly, or from the forehead to the occiput, and the other circumference, from the base to, or a little in front of, the anterior fontanel, was 28 1-2 inches. The child is still living and healthy.

The above measurements have materially increased and the head looks now as if it could not be put into a half-bushel measure. The parents are healthy and at birth the child looked as healthy as an ordinary baby; not until about three weeks later was it noticed that there was some enlargement. At present it eats well, sleeps good and shows some signs of intelligence.

While I am not a kicker, if I had the time and space I should kick a *little* about the way you spell (and I don't pretend to pronounce it) the word practician, meaning a practitioner, one who practises medicine; but the fact that I don't like this word doesn't affect the good work of The Clinic.

You will also notice that I like the old name of the journal the best.

Success to you and your teachings. There re two articles in the April number, "Psychotherapy in Religious Work," and "Limitations of the Emmanual Movement," each worth the price of the paper.

G. E. Flowers.

Granite Falls, N. C.

[This is certainly a remarkable case of hydrocephalus—and what a "bunch" of

Case of Hydrocephalus reported by Dr. G. E. Flowers, Granite Falls, N. C.

monstrosities the "family" is digging up these days. Some of our correspondents write to us of euthanasia, the destruction of poor suffering beings like this one, as really the merciful expedient. Who knows? And, yet, who dares to take the scales of life and death into his own hand?

That word "practician!" Isn't it just as good as clinician or electrician?—Ed.]

THE SEXUAL ORGANS AND THE VOICE

A patient of Dr. Abbott, who had a high soprano voice, taking B-flat easily and clearly, some time ago was compelled to submit to a hysteromyomectomy on account of serious uterine disease. From that time her voice has been gradually changing to a strong, low contralto. While she takes G easily she cannot now sing above G-major without an effort. Not only is the voice lower, but the quality of tone has changed. The patient and her friends wish to know if this is usual.

Changes of this kind are common—more common if the desexualizing operation is performed relatively early in the sexual life. The change of the voice in the male produced by castration is well known. Italian choir boys, with "voices like angels," were once said to owe their high-pitched soprano tones to this operation, performed during infancy. I remember reading that after undergoing an operation for removal of the ovaries one of the most celebrated of English contraltos developed a high-pitched metallic soprano, utterly without charm or value. But the reverse is more likely to be the case, i. e., the voice of the woman usually becomes lower in pitch after a desexualizing operation, while that of the man becomes higher.

A TETANUS PATIENT TREATED BY THE STERMAN OPERATION

I read the article by Dr. Sterman in the April number of CLINICAL MEDICINE and was impressed that possibly there might be something in it, so determined to operate on the first case I had. Well, I operated, and here is the result:

On the 29th of May a little boy (S. N.), age 13, received a shot from a blank pistol; the city physician put on a temporary dressing and told him to go get his father and get a surgeon and have the wad taken out and have it cauterized. The boy being afraid of a whipping did not tell his father the truth but said he had hurt it on a nail.

June 7, at 5 p. m., I was called and found that the boy had been suffering for two days with "cramps in his swaller" and back and could not open his mouth. Had had several spasms and the head was drawn back so far that he could not lie on his back. He told me that he had hurt his hand on a nail. I took a wad of a 22 cartridge out of his hand and asked him if he had told his father that it was a nail injury, and he replied: "Yes, I was afraid he would whip me if I told the truth."

I cauterized the wound with carbolic acid, gave 10 Cc. of antitetanic serum and as he could not swallow I took him to St. John's Hospital and gave chloral, bromide of sodium, bromide of potassium, aa. grs. 12, per rectum every two hours. He had five spasms during the night so at 7 a. m. I repeated the serum and gave one-half of a hyoscine-morphine-cactin tablet and added 10 grains of chloral to the dose prescribed. I then called the family in the parlor and read the article by Dr. W. F. Sterman to them. The father and mother requested me to operate at once. I told them that if they would wait until 1 p. m. and at that time wished me to operate I would do so.

At 1 p. m. they again requested me to operate, as it was plain to everybody the boy could not live. I gave another one-half hyoscine-morphine-cactin tablet and at 2 p. m. operated. At the time I gave the last anesthetic his respiration was 56, pulse 148, temperature 104°F. He was unconscious,

The home of Dr. J. L. Lamb, Corning, Cal., who would sell out

with a spasm occasionally and the teeth shut tight and froth coming out of his lips. He was practically dying.

I shaved the head and trephined with a 1-2-inch trephine over the fissure of Rolando (right-side) and found the gas that Dr. Sterman lead me to think I should find. There was gas also in the wound in the hand. I wiped away the foam and bubbles that formed in the wound with the blood after the first escape of gas, which was audible. Dr. Z. T. Blackwell and several nurses were present and saw the bubbles form and saw

them wiped away and some of them could have heard the escape of the first rush of gas. The boy rested nicely and had no more spasms, the jaws were relaxed until 6 p. m. when he had three spasms, the last one lasting ten minutes. His pulse ran 170, respiration 65, and he never rallied; died at 9 p. m. The wound was examined at the undertakers and no clot had formed in the wound. I reported the operation at once to Dr. Sterman and take the liberty to send to you his letter. I believe the doctor has found something of importance and I shall operate the next time as soon as I see the case and not wait until the patient is dying, as this one was. The hyoscine-morphine-cactin tablet worked fine in this case.

M. H. Evans.

Joplin, Mo.

Dr. C. G. Strobel, Dolgeville, N. Y. Just home from an afternoon with "the speckled beauties"

[Dr. Sterman's letter, which was enclosed, is as follows:

"Dear Doctor:

"I am pleased to have your report. Mark it as a success instead of a failure for it has demonstrated that the pathology is correct in that in this disease, as in many other surgical conditions, delays are dangerous. So soon as fear is removed and the technic is perfected on the human subject (and adjusted frontal trephining may be better than occipital; but the gas is the mischief-maker and it must be eliminated) let us underscore the one point of most importance, "*timely*."

"I extend to you, my dear Doctor, my sincere congratulations and my best wishes. Let me hear from you again and often.

"Wilbur F. Sterman.

Winterset, Ia."

We have received a number of interesting favorable reports from veterinarians concerning the Sterman operation upon horses suffering from tetanus. In one horse operated upon in this city, however, the method seemed to be an entire failure.—Ed.]

REAMY AND CONNER

Your many readers in the Ohio Valley, as well as other valleys, hills and mountains in this great land of ours, will regret to learn of the recent deaths so near to each other, of two, well known to the medical profession as well as to the general public as doctors, teachers and men. I refer to Thaddeus Asbury Reamy, A. M., M. D., LL. D., and Phineas Sanborn Conner, M. D., LL. D.

These two men served as teachers in the Medical College of Ohio, at Cincinnati, for more than a generation, as well as in other schools, and in the various hospitals of Cincinnati. Thousands of students and practicians have sat at their feet and learned of their wisdom. They were tried and true friends of long standing. Alike, yet different, their friendship was fostered by these differences as well as their similarities, for they seemed to need each other. To be associated with these men as teachers, fellow practicians or colleagues has been truly said to be a liberal education in itself.

It was given Dr. Conner to outlive his colleague a few days and to speak of him at the memorial meeting in his honor by the Cincinnati Academy of Medicine. He did

it beautifully, but no better than Reamy would have done for him, had his been the opportunity. The Academy held for each a memorial meeting, and the addresses were beauties of thought and rhetoric. The medical profession of Cincinnati as well as of our whole country is better for their having lived so long. Of that far-famed faculty of forty years ago which made the Medical College of Ohio famous, Blackman, Dawson, Whittaker, Nickles, Reamy and Conner are dead, and now only one, Dr. C. D. Palmer, remains. How touching it is that Conner and Reamy, Damon and Pythias, should die so close together just as the old College, established in 1819, is slowly but surely going out of existence.

A book, "Daniel Drake and His Followers," a medical history of Cincinnati, by Dr. Otto Juettner, which will appear in a few weeks, will deal extensively with these two men. Indeed, Dr. Juettner is preparing a pamphlet, "Reminiscences of Dr. Conner," being facts and observations on medicine in Cincinnati and given Dr. Juettner by Dr. Conner under promise not to publish until after his death.

E. S. McKee.

Cincinnati, O.

PERISTALSIS AND THUNDER STORMS

I have frequently observed that upon the approach of a thunder storm there is often a desire, in the human species, to pass feces, which desire is followed invariably by a normal healthy action.

A word from the editor would be appreciated, also, a discussion of this phenomenon by the members of the "family," if thought worthy.

W.

——, Va.

[I think that the action in such cases is exclusively psychic and may be ascribed to the influence of fear. It is well known that fear quickly induces perspiration of the most profuse nature, and those of our readers who have not passed many years since they appeared for examination before the faculties of their colleges, or before the state medical examining boards, will acknowledge the stimulating effect of such ordeals upon the vesical detrusor. In the present instance I am reminded of the story of the Irishman who, applying for work in a dynamite factory, had his nerves tested by the manager allowing a supposed dynamite bomb to roll off the table to the floor. The other spectators left the room hurriedly by the door and windows, carrying the frames with them, but the Irishman never moved. As to his bowels however—!?!—Ed.]

IT "SORCHED" HIM CLOSE

On page 562, May Clinical Medicine, E. S. McKee, Cincinnati, suggests that we all send in the little things that may amuse "the family." I herewith submit the following:

Starling Arlidge was as near a picture of a "dirt eater" as I have ever seen and had been for a long time but he had never called on me for treatment so I knew very little about him except his appearance.

One day he came into my office and said, "Doctor, I iz kum fer some medsin—iz been sick fer some time."

"All right Starling, what seems to be your trouble?"

"I dunno."

"How about your appetite," said I; "can you eat anything?"

"*Great God!*"

"Appetite good then?"

"Sho is."

"What have you been taking, Starling?"

"Rusty nails in winiger."

"How much?"

"Er good dose."

Having seen the following prescription—Podophyllin, grs. 6; sacch. lactis, grs. 40. M. Ft. chartæ No. 3. Sig: Take one every two hours—suggested for this class of patients and regarding Starling's case as a typical one, I made the three powders and handed them to him with proper instructions, telling him that I would call two days later.

Starling looked at the powders and then up at me and said, "Dis all?"

"Yes," said I, "that will do until I see you."

"What I gwin ter do termorrow."

"That will do," said I, "I will see you day after tomorrow."

"Hit mus be powerful. Will hit sorch me close?"

"Yes," said I, "look for me day after tomorrow."

Two days after, according to promise, I went to see Starling. When I walked in he was lying across the foot of the bed. He looked worn and pale and his eyes were sunken. I was surprised to see him so thoroughly exhausted. Finally, I said, "How do you come on Starling?" I got my answer almost before my question was asked.

"Don't ax me how I kum on," he said; "ax me if I ur."

N. F. KIRKLAND, JR.

Allendale, S. C.

WHAT WOULD YOU DO?

BY A PESSIMIST

(With apologies to the shades of Poe)

Once, upon a midnight dreary,
As I pondered, grouchy, weary,
Thinking of the great injustice
That to worthy sons of men
Comes in chunks so vast, so horrid,
Causing cataracts of language torrid,
I picked up my ready pen,
And, unto my desk quick turning,
Wrote in language fervid, burning,
(Though perhaps a trifle coarse)
An expression of the force,
That impelled me to the task.

Would you hang round this derned old earth,
That's kicked and flouted you since birth,
And skinned you every chance she got,
By the hands of a selfish, grasping lot,
If you could find a quiet rest,
About six feet below her breast?
Would you?

Fools pat you on the back and say—
"Hurrah! my boy, strive on each day,
'Twill bring you nearer to the end—
And, then, success will make a friend."
Would you take such d—n-fool advice
If you had lost out twice or thrice?
Would you?

I'm sure I believe what Abe did say
About fooling some folks every day.
An' I'll make my mind up good and strong
To have an easier time e'er long.
I'll turn the trick and change my stunt—
And divorce some sucker from his blunt.
Wouldn't you?

I used to think I had a rate—
An' prided myself on being straight.
But, pshaw! it doesn't work worth a d—n,
Each wolf just skinned me for a lamb.
So I'll e'en change my ways and means—
An' work some fool for *my* pork an' beans.
Wouldn't you?

An unfortunate obsession of honesty has, so far, prevented the fulfilment of this vow.

WM. C. POST.

Maquoketa, Ia.

OUR CLASSIFIED ADVERTISING COLUMNS?

I suppose that every reader of CLINICAL MEDICINE studies the advertising pages also. If he doesn't do this he certainly should turn over a new leaf from this day and make it a practice to go through that section of the journal carefully and profit by it to the utmost.

We wish particularly to call attention to our classified advertisements, which appear this month on advertising page 30. These columns may be of great service to almost any doctor. If you wish to buy or sell a practice, find a new location, dispose of or purchase an automobile or a horse, or buy an electrical outfit for your office, this department gives you a ready and inexpensive method of meeting your wants. The charge is only $1.00 for 25 words and 4 cents for each additional word; cash with order.

CHICKEN-POX OR SMALLPOX?

Every once in a while we get letters from subscribers telling of their difficulties in making a differential diagnosis between these two diseases and the blunders made by health officers and others in authority. As an aid in such cases the table which follows, sent by Dr. C. T. Pepper of Los Angeles, California, should prove of great value. Dr. Pepper has had some "experiences" himself, and this diagnostic table is really the result—the record under the heading "chicken-pox" really being a description of a case in his own practice, the patient being the Mr. Settle referred to. The verity of the

facts, as given, is supported by sworn statements, copies of which the doctor has sent us.

Now, the question which Dr. Pepper wants answered is this: "Can any case answering to the description given under the column, "Chicken-pox" be properly diagnosed as *smallpox?* Drop a card to the doctor and tell him what you think.

CHICKEN-POX

First Day

Temperature, 103°F. No backache.

Second Day

Eruption appears as vesicles on back, chest and arm, about 30 hours after fever subsides. No shot-like feeling; unilocular. No elevation of temperature.

Third Day

Vesicle milky colored, round top; no depression nor umbilication; no "shot" feeling nor areolar inflammation. Unilocular vesicles 1-8 inch at base.

Grisolle test *negative.*

Fifth Day

No fever. No surrounding nor areolar inflammation. Eruption dried up.

Eighth and Ninth Day

No fever. Eruption discrete. Scales drop off and clean in bath. Mr. Settle shaves himself. No ill feeling since cessation of initial fever. No pock pits and the pink places where the vesicles were, disappear in about a week.

SMALLPOX

First Three Days

Initial fever, 103-105°F. Intense backache.

Third to Fifth Day

Eruption before fever is off, first on forehead and face; shot-like feeling under skin, as vesicles form. These change in a few days to pustules. Umbilicated, or central depression; multilocular.

Grisolle test *positive.*

About Twelfth to Fourteenth Day

Temperature 104° to 106°F. during secondary fever (occurring during pustulation), probably higher than initial fever; high temperature about 3 days. As pustules dry fever gradually subsides.

About Twenty-First Day

Temperature normal about here. Scabs fall off, leaving pocks or pits in the skin of brownish red color, lasting several months.

BRYCE IS BUSY: A NEW IDEA IN MAKING COLLECTIONS

Our good friend, Dr. C. A. Bryce, editor and publisher of *The Southern Clinic*, is a very resourceful man. He has recently worked out a plan for aiding physicians in that most difficult part of their work, making collections. It is ingenious and we can readily believe that it will prove effective without being offensive. We can not describe it better than in Dr. Bryce's own words. We quote from his circular letter and also print, somewhat reduced in size, a fac-simile of one bill-form, as follows:

BRYCE'S COLLECTOR

DEAR DOCTOR:—We know from experience that doctors are the poorest men in the world, and it is because they are the poorest business men on earth today. You are keeping yourself out of hundreds of dollars annually that you could easily get without offending your patients or without any worry on your part.

We have solved the problem in our system of statements.

It has worked so well for us that we are supplying the profession. Here is our guarantee: If you will commence the coming year with our system, and carry it out with *every one* of your patients, regardless of how good or how worthless they may be, we will cheerfully refund the money you pay us, if you do not admit that we have made you better off financially than you have been for many years.

We furnish you with 500 bills, assorted—about 165 of a kind—for $1, and send you *The Southern Clinic* for a year.

Now, our method looks extremely simple, but it is the best system ever devised by any individual or agency, so far as our experience goes. On the first of each month fill out bills No. 1 and *mail to each and every one* of your debtors. Don't leave them in person—*mail them.* You have no idea how much virtue there is in a letter or bill under seal. Next month send No. 2 to *all.* Third month send No. 3.

This will settle every bill you have out owing you by people worth attending. Those who do not respond to these bills should be refused any further attention. Try the system, Doctor, you will thank us. We can print your name on the bills for 50 cents extra, but think it better to write the name, making it appear that others beside you are trying to get their fees.

Fraternally yours

SOUTHERN CLINIC.

4 E. Clay St., Richmond, Va.

Prefixing statement No. 1, Dr. Bryce has had printed the following sentence: "When you send for a doctor it is because you need him and expect him to come. When he sends you his bill it is because he needs your

If you sent for a doctor twice in succession, you would be in great need of him and would think very badly of him if he neglected you under such conditions. This is your second bill.

Mr .....

To Dr. ..... Dr.

To Professional Services to date $.....

Date .....

assistance and expects it." If this fails to bring the money, statement No. 2 is sent, the form being the same as the preceding one, but it carries the following prefix: "If you send for a doctor twice in succession you would be in great need of him and would think very badly of him if he neglected you under such conditions. This is your second bill." The third statement commences with the following legend: "When a drowning man goes down for the third time his friends have lost their chances to save him. This is our third appeal to you to treat us fairly. Don't drown a good friend." This usually brings the money.

The system is worth trying—and you'll like Bryce's journal!

A CURIOUS DOCTOR'S SIGN

One of our boys who is traveling through the South sends us the following sign:

W. H. MOORE, M. D.
Cures all flesh is heir to.
The Blind to see The deaf to Hear.
Fitts of every Description.
Small pox Measles Erysipelas hives
Mumps
and Fevers of Every description.
Tumors, Wens, Gartners, Schrofula.
ALL Female and Unknown diseases.

This he declares is an exact copy of what appears over the door of a colored practitioner in one of the principal cities in North Carolina.

This colored gemman is certainly endowed with all the wisdom of the schools and the wiles of the "cunjer." Funny he doesn't advertise to raise the dead—he promises pretty nearly everything else!

A CASE OF CHOLANGITIS

You ask for my experience with gallstones. I feel very young on the subject as it was my first case of gallstones. I will give symptoms as I saw them. The patient was six miles in the country and I saw her only every other day.

On April 5, 1909, I was called to see this ady, who was 57 years of age, large, with a great deal of Irish blood running through her veins. She reported having had the attacks twice before, three and six years previous to this one, but not so bad. She had been sick one week when I was called and showed a typical jaundiced appearance. The urine contained a great quantity of bile and the stomach was weak and irritable.

The attacks were preceded by a chill and occurred every forty-eight hours, symptoms of shock following. The fever would gradually decline until six hours before the next attack. When gallstones began to pass the jaundiced appearance rapidly gave way. The heart gave me trouble, the spine next, and at the occiput there was excruciating pain, the part being hot and tender to the touch. After this began to give way she would vomit.

For the fever at first I gave the tinctures of aconite and belladonna but they did not seem to control the fever, so I discontinued them on the third day and began to use cold cloths on the head. I advised olive oil to be taken in tablespoon doses every two hours as she could not take effervescent sodium phosphate on account of an irritable stomach. I gave the oil every two hours for six days, then every four hours for six days, then two doses a day, and she is still taking from one to two doses a day.

The second week I began with sodium phosphate and she continued to take from one to two doses a day. The heart weakness I controlled with glonoin, digitalin and cactin. This is my first case, but I fought it with confidence and the active principles *plus* olive oil.

I like CLINICAL MEDICINE above any journal or book I have. It is good for body and soul—gives one many things to think about, so much encouragement from men of experience who certainly know the responsibilities of the physician.

A. D. HILTON

Wickes, Ark.

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[This seems to have been a typical case of catarrhal cholangitis, due to infection of the bile passages. Intermittent paroxysms of chills, fever and sweating, with persistent

jaundice, hepatic pain and gastric disturbance, are characteristic. When the stones passed, the obstruction was relieved and there was finally good drainage, when the symptoms of the disease of course disappeared.

The treatment outlined by the doctor was in the main excellent. In spite of the latter-day contempt for olive oil I consider it a valuable remedy, not because it has any "dissolving" effect upon gallstones, but because

Dr. Homer M. Steifer, Coutalenc, California

it is a simple, soothing laxative, this serving to reduce the congested condition of the duodenum. The saline laxatives act in much the same way, and in my opinion are even more efficient.

For many years I have relied upon sodium succinate in all my gallstone cases, and have invariably found that when this remedy was continued over a long period of time the attacks gradually grew less severe and less frequent, finally disappearing altogether. Boldine is another remedy of great value in these cases and I usually give it in association with the sodium succinate—and with the happiest results. Another remedy which has been found of value, especially by the eclectics, is dioscorea. There is no doubt in my mind that much can be done in these cases by appropriate treatment.—Ed.]

RHEUMATISM VERSUS TUBERCULOSIS

Some ten years ago I was paying special attention to rheumatic cases. I noted that there was a lack of oxidation in these cases, yet while this same condition existed in tuberculosis, seldom if ever did I see one disease a complication of the other. Believing the animal foods required less time for oxidation than the starchy foods I was prone to feed them to excess, watching the eliminating function of the kidneys.

In those days I was inclined to think there was an antagoism between rheumatism and tuberculosis and attempted to produce the former to cure the latter. Whether working on a false hypothesis or not, I had the satisfaction of witnessing the recovery of several cases which were deemed hopeless. Probably they were only cured by good food and oxygen though the above thought might not be amiss.

H. W. Scott.

Midale, Sask., Can.

SUCCINIMIDE OF MERCURY IN FEBRILE TUBERCULOSIS

In febrile tuberculosis there is today probably no better routine medicinal treatment than the gradually ascending doses of tuberculin hypodermically. In this class of cases belong also those who can be rid of fever by a few days' absolute rest in bed, coupled with a thorough cleansing of the bowel.

But in cases running a continuous high fever 103°F—104°F, and over—indicating probably mixed infection, tuberculin is usually contraindicated. In such a case I have lately tried the intramuscular injection of the succinimide of mercury as advocated by Dr. Wright. I injected 1-4 grain every other day into the gluteal muscles. This is continued for thirty injections. Then rest is ordered for two weeks, during

which time I give 20 grains potassium iodide, t. i. d. Then I resume the injections, give thirty more, then repeat the rest-period with the potassium iodide, then another course of thirty injections.

Internally I gave a combination ("antituberculosis") consisting of strychnine arsenate, calcium lactophosphate, iodoform and nuclein, and calcium sulphide, 6 grains daily; but these had no effect before the mercury injections were used.

I see that Wright lately advises to run the mercury up to physiologic effect and not to use the potassium iodide.

Well, in the case I speak of it worked miraculously. After two or three injections temperature ran between normal and 100°F, and soon stayed normal, barring a short period when the patient overworked. Cough almost entirely ceased after twenty-five injections, having been very profuse before; the large cavity rapidly closing, patient gaining weight and strength rapidly. Was bedridden at beginning. After twenty injections she thinks she is just about well, and looks it.

Another case of tubercular peritonitis with high fever improved very slowly under the mercury, but is now gaining rapidly after abdominal drainage.

One or two reports mean nothing, but if a thousand doctors report a case conclusions can be drawn. ADRIAN F. BURKARD.

Omaha, Nebr.

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[Why may we not have large numbers of cases reported, very briefly—so that all may have a chance for a "say-so" in this therapeutic experience meeting? This is exactly what we want for our pages, not only as regards tuberculosis but concerning the treatment of every other disease. Come on, every one!—ED.]

MERCURY SUCCINIMIDE IN TUBERCULOSIS. ERYSIPELAS

Some time ago I saw in CLINICAL MEDICINE a call for reports from those using mercury succinimide in the treatment of tuberculosis. I have used it in two cases with marked improvement. I give 1-10 grain every second day hypodermically. In addition I have given syrup of hypophosphites comp. and have met other indications as they arise. There has been an increase of weight of 11 pounds in one case and 14 in the other; a marked reduction of cough, expectoration and night-sweats. Temperature in both has come down to normal from 101°F. afternoon temperature; appetite good in both. They have been under treatment only sixty days.

I have treated two very severe cases of erysipelas, one Mr. D., age 66, treated in practically the same way as Mr. B. Recovered—was convalescent in six days.

Mrs. R., 62 years of age. May 11, first call, found erysipelas involving the nose and pharynx; swabbed throat with 10-percent silver nitrate, syringed nose with saturated boric-acid solution and applied some of the same solution to the nose on cloths. Internally calomel, gr. 1-4, every half hour up to twelve doses, followed by one ounce of magnesium sulphate; gave 1-8 grain pilocarpine nitrate, hypodermically, and left some to be given every two to four hours as necessary to keep up a good sweat.

The patient began to sweat freely in a short time and continued for several hours. I was called again in twelve hours and found the eruption covering the entire face, head and breast. I stopped the pilocarpine, applied a 50-percent ointment of ichthyol, rubbed it in well, covered the affected area with cloths wrung out of a cold saturated solution of magnesium sulphate, to be changed every five minutes. Gave another round of calomel and salts. I also gave internally the following: Veratrum, gtt. 2; rhus tox., gtt. 1-2; echinacea, gtt. 10; baptisia, gtt. 2, together, every three hours. Tried to give tincture of iron, but the patient could not retain even 5 drops at a dose.

The eruption ceased to spread and slowly faded; temperature was reduced from 105° to 102.5°F. in twelve hours, and to normal in forty-eight hours longer. Patient was under treatment eleven days.

Doctor, I believe the pilocarpine made my patient worse. Can you offer any sugges-

tions as to why it spread so rapidly under the pilocarpine? F. S. DEEM.

Newark, Ind.

[No, I can not. In the use of definite remedies like alkaloids we are at least sure of the action of the drug, but not of the reaction of the patient with it. In 20 years I have had no exception to the complete control of pilocarpine over sthenic erysipelas, but then I am only one out of the 150,000 doctors of America, and I don't begin to know it all, or even very much.—ED.]

DEATH OF DR. L. W. CARTER

We are sorry to announce the death of Dr. L. W. Carter of Peoria, Ill., one of our old and good friends. The Doctor had been ailing for a number of years and yet he found time to keep abreast of the profession and earnestly at work in its everyday activities.

SPASMODIC URETHRAL STRICTURE

I note that one brother mentions spasmodic urethral tenesmus. Although a back number and off the beaten track, spending six months in the land of perpetual sunshine and eternal spring, I am called to treat many perplexing cases, no other physician being within thirty miles of my Florida home.

I was asked to treat a poor man suffering from spasmodic stricture of the urethra at the sphincter of the bladder. He had taken cold from exposure. I happened to have with me only a dram of tincture of belladonna. That man was suffering tortures and there was no waiting. I placed fifteen drops of the tincture in ten teaspoonfuls of water and gave him a teaspoonful of the dilution every ten minutes; the fifth dose was not needed.

Now please do not try to use anything but the homeopathic tincture. The same patient was taken a year later precisely in the same way. Having no homeopathic tincture I used the specific tincture without effect; then the atropine granules, which failed to relax the stricture. Fortunately, within an hour an old lady hearing what I was seeking brought me half a dram, all there was in the woods of southern Florida at the time, and this was given with the same happy results as during the first attack. I believe it a specific. "BACK NUMBER."

——, Florida.

[All of which proves, my dear Doctor, that "one swallow does not make a summer." Atropine and its "mother" plant, belladonna, are both powerful relaxants of unstriped muscle-fiber. The battle may have been more than half won when you "switched" to the homeopathic tincture—who knows? Certain it is that the physiologic action of the belladonna does not vary widely from that of its principal alkaloid; while it is equally assured that the certainty of effect of the latter is much greater than from any tincture. On the other hand, the homeopathic tinctures are generally excellent, like those of our eclectic brethren.

Why cannot we have a more general discussion of some of these genitourinary ailments?—looking at the subject from its therapeutic side. Observations like this one may set us to thinking—and should.—ED.]

APOLOGIES!

For lack of space this month we have been compelled to omit the Esperanto lesson, also an exceedingly interesting original article written in the Esperanto language, and many other valuable articles already in type and promised immediate publication. We ask everybody's pardon. We'll get to you all, dear friends, after a little while—next month most of you. The Esperanto lessons will be continued in September.

A CORRECTION

In a little article on page 821 of the July CLINIC describing Dr. Kreider's method of treating hydrocele the sentence appears: "He gives 2 and 1-4 grain tablets" instead of "He gives two 1-4-grain tablets. Please take your pen in hand and make necessary correction.

CLINICAL · MEDICINE
POST-GRADUATE SCHOOL of THERAPEUTICS

George F. Butler, M. D., Director
Thomas J. Mays, M. D.
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William F. Waugh, A. M., M. D.
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PART II.—LESSON EIGHT

RESTORATIVES AND ALTERATIVES (Continued)

The Alkalis as Restoratives.—Alkalis are classed as restoratives because the blood and many secretions of the body are alkaline in reaction. The blood must be regarded as an alkaline medium. Its power of transporting carbonic acid depends on the alkalinity of the blood; upon this fact is also dependent the power of the blood to take up, at certain times, organic acids without itself becoming acid.

Chlorine and *sodium* are taken in principally in the form of sodium chloride, either as a constituent of the food or as a savory adjunct. The sodium is found in combination with carbonic acid, and in smaller quantity with certain vegetable acids. It is also thought to exist in loose combination with proteins. The chlorine is also present in foods to some extent, as chloride, with potassium as well as the alkaline earths. Chlorine and sodium are practically completely absorbed into the body, except in severe diarrhea, when a considerable amount of sodium chloride is excreted in the feces.

Potassium occurs in food in combination with chlorine, and partly with carbonic acid and phosphoric acid. The chief quantity is introduced in the vegetable foods. Potassium, like sodium, is very readily absorbed, as is shown by the rate at which it reappears in the urine.

Calcium, one of the alkaline earths present both in animal and vegetable food, in part exists in loose combination with certain albumins of acid character, but by far the greater percentage occurs as inorganic salts, viz., phosphates and carbonates. Vegetable foods are richer in calcium than are flesh foods. Of the animal foods, eggs and milk are particularly rich in calcium, for the growing animal requires this element for the formation of bone; flesh on the other hand is poor in calcium content. Calcium salts also occur in drinking water, but in fluctuating amount.

The attempt, however, to refer those diseases which depend on an imperfect deposition of calcium in the bones, as in rickets, to an imperfect absorption of calcium salt have failed completely. The general statement may, however, be made, that the greater the amount of acid constituents present in food or produced in the body (for example, the sulphur of protein), the greater is the amount of calcium appearing in the urine. With an increased acidity of the urine its power to dissolve calcium is also increased. This explains why so little cal-

cium will be found in the alkaline urine of herbivora, and so much more, comparatively, in that of the carnivora. On the same grounds Bunge explains the greater percentage of calcium in the urine from flesh diet compared with that from vegetable diet. More calcium appears in the urine after acid calcium phosphate than after the corresponding basic salt. Hydrochloric acid and sulphuric acid increase the quantity of calcium eliminated by the kidneys, while the administration of alkalis somewhat diminishes it.

In diabetic acidosis and in other conditions in which greater quantities of organic acids are present in the tissues, the urinary calcium is considerably raised, but falls when such cases are treated with large doses of sodium bicarbonate.

Alkalinity of the Blood.—It is easy to withdraw alkalis from the body, as it is difficult, at any rate for any length of time, to maintain an excess of them. Naturally no measures can be taken against the first eventuality, but it is easy to prevent an excess of alkalinity by increasing excretory acidity. Any excess is got rid of by the exercise necessary to preserve the activities of the body undisturbed and its proper composition constant.

It is no wonder then that the specific effects produced by the administration of alkalis in those cases in which previously no deficiency existed is much less marked than, *a priori*, we might be inclined to expect in view of their powerful action in increasing oxidation processes *in vitro*. The alkalinity of the blood can only be slightly, and but temporarily, increased. As alkalis, in order to produce any action, must be given in large doses—the intensity of their action being directly proportional to the number of active hydroxyl ions involved—it is clear that it is not the matter of the action of alkalis pure and simple, but of their salts. In most cases, however, it is very difficult to distinguish between the two, and to this we must attribute in great part the obscurity which surrounds the influence of alkalis on metabolism. The researches on this subject, though numerous and exhaustive, have often been somewhat one-sided on general metabolism.

The Influence of The Alkalis on Metabolism

In spite of the frequent use of alkalis in the form of mineral waters, their influence on general metabolism has seldom been the subject of experiment, and the published results do not go very far toward establishing clear ideas on the subject.

In man, some hours after the injection of 5 Grams of sodium carbonate there has been observed an alteration in the gaseous exchange. Experiments on diabetics yielded no definite conclusions.

Sodium bicarbonate, in doses of from 2 to 6 Grams, has no recognizable influence on protein metabolism, taking the period during which alkalis are given and the subsequent period together. This last is a necessary precaution, as the diminution in excretion which occurs in the former is, as a rule, compensated in the latter period.

Calcium carbonate, given in larger amount, but of which only a small portion can have been absorbed, gives rise to no more effect than increased nitrogenous excretion. It must, however, be noted that the alkaline action of calcium salts is much greater than might be supposed from the amount which is excreted by the urine, because the calcium neutralizes the acids in the gastrointestinal canal. The alkalis, therefore, in the intestinal and pancreatic secretions and in the food are no longer required for this purpose, and so can be utilized to keep up the alkalinity of the blood. This statement holds true for all alkalis, even when they are neutralized by the gastric and intestinal acids. We must, therefore, conclude that all alkalis, even those which are only absorbed to a slight degree, can, if given in sufficient quantity, produce an alkaline or nearly alkaline reaction in the urine.

Amounts varying from 20 to 40 Grams of sodium acetate, bicarbonate, and citrate, have been given with varying results. In some cases there was no alteration in the nitrogen elimination; in others the amount, which had been constant, became, under the

influence of alkalis, very inconstant, showing great variations. This variation was of two kinds: either the nitrogen during the following day was the same, and in the succeeding period gave rise to a corresponding increase in the urine, or from the beginning there was a sudden rise in the nitrogen excretion, followed by a fall. In no case, however, did the average show any difference when compared with the normal period.

Alkalis undoubtedly exert some restraining influence on the glycogenic function.

Changes in the Composition of the Urine Produced by Alkalis.—The amount of urine is increased by large doses of alkalis for the same reason as in the case of the administration of neutral salts. In both cases, moreover, the alkalinity is increased, so that there is a further rise in amount, owing to the passage of alkalis with the urine. This, however, never takes place to such an extent that the urine will turn red litmus paper blue, but the hydrogen disodium phosphate output is always increased, while the dihydrogen sodium phosphate is diminshed.

This increase in alkalinity has a favorable influence on the solution of uric acid concretions, and prevents precipitates from forming; hence alkalis are important agents in treatment of corresponding pathologic conditions. Calcium carbonate is especially suitable for this purpose, and has recently been extensively so employed. This agent decreases the acidity of the urine more powerfully than the soluble alkalis, owing to the fact that it forms more insoluble compounds with phosphoric acid in the intestines, and thus checks its absorption. In the urine less phosphates and less dihydrogen salts appear, so that the acidity is reduced without the fall being sufficient to produce an alkaline reaction, at any rate not in man.

An alkaline reaction is inadvisable, both on account of the risk of precipitating the phosphates and on account of its favoring bacterial growth. The reputation so long enjoyed by the alkalis of being the sovereign remedy for gout has led to numerous experiments on the influence of alkalis on the excretion of uric acid. Experiments carried out on healthy persons by methods which are quite reliable show that there is no appreciable effect. The slight and temporary decrease in uric-acid excretion is doubtless to be explained by the presence of diarrhea due to the administration of alkalis.

Alkalis as Uric-Acid Eliminants.—The therapeutic value of alkalis in gout—and they undoubtedly have value—so far as it exists, must be attributed to some other action than the elimination of uric acid. It is a remarkable fact that the compounds of uric acid with an organic basis, such as lysidin and piperazin, which are easily soluble in water, are almost insoluble in physiologic salt solution or blood-serum. The effect of the alkalis on uric-acid excretion is variable, while the excretion of ammonia has been reduced in all experiments, both in normal individuals, and especially in cases of acidosis where there is increased excretion; but it cannot be completely excluded from the urine.

The alkaline compounds of the vegetable acids undergo combustion in the body, and therefore ultimately exert the same effect as the alkali carbonates. Their influence on the economy of the nitrogen, the common salt, and the alkalis is exactly the same as that of the carbonates. The supply of carbonates is certainly much more important for the intestinal tract than the supply of the salts of the vegetable acids. After sodium carbonate has been taken partial or complete saturation of the hydrochloric acid of the stomach and the increase of the alkalinity of the intestinal contents ensue; after organic acids have been taken they replace the free hydrochloric acid of the stomach.

Whether the salts of the vegetable acids produce an amount of alkalinity inside the body equal to that produced by the equivalent quantities of sodium carbonate depends upon the locality in which the change into carbonate takes place. Further, it must be considered whether the sodium carbonate in a nascent state acts as powerfully as or more powerfully than that which enters the

cells having been already formed outside them. Yet another difference might arise if the alkaline carbonate formed in the body should be excreted either more or less quickly than that introduced in a ready-formed state.

Alkalis and Digestive Secretions.—Potassium salts in small doses promote the secretion of gastric juice, thus obeying the law by which alkalis augment acid secretion. Large doses neutralize free acid in the stomach and, by rendering the chyme neutral or alkaline, interfere with the secretion of the pancreas, liver, and intestines, thereby deranging digestion.

The salts of potassium, by lessening the acidity of the gastric juice and entering the circulation, increase the alkalinity of the blood. The *bicarbonates*, however, taken in large doses on an *empty* stomach, enter the circulation unchanged, where, by decomposing the neutral sodium phosphate present, they form the acid phosphate of sodium, lessening the alkalinity of the blood and increasing the acidity of the urine.

Far different are the effects of these alkalis when taken after meals, the salts being then decomposed in the stomach by the acid gastric juice, the alkaline base increasing the alkalinity of the blood. The acetates, citrates, and bitartrates enter the blood unchanged. When potassium salts are administered in medicinal doses, for a reasonable length of time, no important action upon the nervous system is produced. Excessive doses, however, paralyze the nerve-centers and motor nerves.

The Potassium Salts possess very high diffusive power. They are easily and quickly absorbed and rapidly excreted, the salts with vegetable acids being eliminated as alkaline carbonates, rendering the urine alkaline. Salts of potassium are chiefly eliminated by the kidneys, though the process takes place to some extent in the bronchial mucous membrane and other secretions. They are active diuretics, increasing the amount of water and, by stimulating the renal epithelium, augmenting the excretion of solids.

Sodium Salts in their action are analogous to those of potassium, although less irritating to the gastrointestinal tract. They are less depressing also to the circulatory, muscular, and nervous systems. They differ from the potassium salts in that they lengthen, instead of shortening, the muscular curves.

Lithium Salts closely resemble in their effects those of potassium, their action upon the nerves and muscles, however, being less powerful. As a solvent of uric acid, lithium is the most powerful of all the alkalis, the urates formed under the administration of the carbonate or citrate being extremely soluble, rendering the alkaline salts of lithium superior to the other alkalines in the socalled uric-acid diathesis.

Calcium Salts are more sedative and astringent in their action upon the gastrointestinal tract than the other alkalis, and are direct antacids. They tend to produce constipation. The nervous and muscular systems are less affected by these salts than by the other alkalines. They are less readily absorbed and excreted than the alkalis already named, and less active in increasing the alkalinity of the urine.

Magnesium Salts.—Magnesium carbonate and plain magnesia are direct antacids and sedatives to the stomach, acting upon the intestinal canal as saline cathartics. In their influence upon the circulatory system they are feebler than, but similar to, the potassium salts, slightly increasing the alkalinity of the blood. They are not so readily absorbed, nor so rapidly excreted, as the salts of potassium and sodium, while increasing the amount of water and solids excreted.

Ammonium Salts.—These are used rather as cardiac stimulants, their physiological action being more extensively considered under that group. As antacids their action may be briefly compared with that of the other alkalis. Their effect upon the gastric juice and its secretion is similar to that of the carbonates and bicarbonates. They increase the glycogenic function of the liver and stimulate the circulatory system. In medicinal doses they stimulate the spinal cord, motor nerves and muscles. They prevent coagulation of the blood and lessen

the oxygen-carrying power of the red blood-corpuscles. The ammonium salts are quickly absorbed.

Different Action of the Alkalis.—The alkalis are divided into two groups: the volatile and the fixed. The volatile alkali is ammonia; the fixed alkalis are soda, potassa and lithia. To these we may also add magnesia for, though belonging to a different chemical group, it agrees with them to a great extent in its physiological properties. They all have the power of combining with acids and forming salts. After entering the system these three substances (ammonium, sodium, and potassium) exert a different action, as already stated. Sodium is indifferent, potassium is a depressant, and ammonium is a stimulant.

In cases of bronchitis where the patient's bronchial tubes are choked with mucous, and where you do not wish to give such drugs as ipecac or antimony for fear of depressing the already weakened parts, 20 or 30 grains of ammonium carbonate may be given as being a powerful emetic and, at the same time, a stimulant.

The bicarbonates of sodium and of potassium are frequently employed where an antacid action upon the stomach is wanted. When given in small doses, before meals, they tend to cause stimulation of secretion, and thus will increase both the appetite and digestive power. This action will be gone into more fully later.

When given after meals, potassium and sodium bicarbonate are given for a different purpose, namely, to neutralize the acid which may be present in the stomach. By this means you are frequently able to relieve a patient considerably from the feeling of acidity, or socalled heartburn, and also to arrest the pain which comes on in cases of ulcer either of the stomach or the duodenum. In the latter cases you must give the drug in larger doses, say, one-half or even more than a dram of the bicarbonate of sodium in plenty of water. Athough this relieves the pain, one does not know exactly what local effect the potassium or sodium salts may have upon an ulcer in the stomach or duodenum.

The sodium bicarbonate is a useful adjuvant in dyspepsia, stimulating the secretion of gastric juices when given in small quantities before meals and lessening the pain which occurs from irritation of the stomach by the presence of acids, particularly when that acid is in large quantities, or if the stomach is ulcerated.

Now, there are certain differences in the local action of some of those carbonates and bicarbonates. Sodium bicarbonate is chiefly used for its local action upon the stomach. Potassium bicarbonate and lithium bicarbonate are used more for their general action as alteratives, modifying tissue change, especially so in gouty patients. Magnesia and magnesium carbonate are both used as local antacids to lessen pain in the stomach and also to produce a slight laxative effect upon the intestines.

Lime in its caustic form is comparatively little used, although formerly a paste of quicklime was frequently employed as an escharotic. In the form of lime water lime is in common use for various purposes. It is frequently added to milk in order to prevent its forming curds in the stomach, especially in cases where patients are put upon a milk diet. Sometimes lime water, and sometimes soda-water is used to add to the milk in case of typhoid fever. The object in both cases is the same. You wish to make the milk form into small curds so that it is easily digested. If there is any tendency to diarrhea, as in typhoid fever, the lime water is preferable; but if, as is sometimes the case, there is a tendency to constipation, then the soda-water is of course, to be preferred.

One objection to soda-water is that the gas given off from it, although useful in one respect, namely, that it keeps the fine curds further apart from one another and thus renders them more easily digested, sometimes gives rise to very uncomfortable distention. In a case of this sort, if there is still a tendency to constipation, you may employ simple water which is rendered slighted alkaline by means of sodium bicarbonate instead of using the carbonated water generally employed.

Alkali Salts of Vegetable Acids.—The salts of the alkali bases with vegetable acids (especially acetic, tartaric, and citric) are useful remedies.

The salts of ammonium are converted into urea in the body, and are excreted as such, but the acetate of ammonium is an important remedy in all febrile diseases, and, to a smaller extent, the citrate also.

Ammonium Acetate is one of the oldest of our drugs and one which has held its place for centuries. It has the effect of increasing diaphoresis and acting as a slight antipyretic. It is not of such power as to depress the temperature as do some of the newer drugs; but for that very reason it is sometimes safer, and so ammonium acetate or (ammonium citrate) is very largely employed either alone or in combination with spirit of nitrous ether as an antipyretic. Ammonium acetate acts chiefly on the skin as a diaphoretic, potassium acetate rather on the kidneys as a diuretic.

Potassium Acetate is used as a diuretic, especially in cases of chronic kidney disease where it frequently is combined with iron acetate. The acetates of the other alkalis are very sparingly used. The tartrate of potassium is often used in place of the acetate as a diuretic.

Potassium acetate has a double action: in small quantities it is absorbed and acts as a diuretic and as an indirect antacid, rendering the urine alkaline; but in large doses it has not this effect, and then acts as a hydragog cathartic. It is generally employed combined with some vegetable cathartic, which stimulates the peristaltic movements of the bowels; so that the large fluid excretion produced by the acetate of potassium may be quickly evacuated to prevent reabsorption.

PHYSIOTHERAPY

RADIOTHERAPY

In our last lesson we were taught that *photo*-therapy is the therapeutic use of radiating force-modalities which emanate from the solar spectrum, i. e., heat-rays, light-rays, chemical, or actinic, rays, and ultraviolet rays. There are, however, many radiating forms of energy which are not spectral in character, e. g., the Roentgen-rays (x-rays), and the radiations from radioactive substances, e. g., radium. The therapy of these nonspectral radiations is called *radio*-therapy.

The therapeutic uses of radium are still in the experimental stage although good effects in cases of external afflictions (indolent ulcers), epithelioma, etc., have been observed. For purposes of treatment either pure radium or salts of radium or radioactive solutions and fluids are used. The subject, while it has absorbing scientific interest, is not a practical one, mainly on account of the cost of radium and the difficulty of obtaining the latter.

In speaking of radiotherapy we ordinarily refer to the Roentgen-rays and their therapeutic uses. In discussing the latter we must assume familiarity with the technic of x-ray work, especially so far as the tube is concerned. I take it for granted that my readers understand the physical principles of the tube and are familiar with the phenomena of this form of radiation. I shall confine myself to the task of giving a fair and practical estimate of Roentgen-ray-therapy without encumbering the subject with the theoretical explanations and conclusions of the many observers and experimenters in all parts of the world.

Radiography Still in Experimental Stage.—While the position of the Roentgen-rays as a means of diagnosis is well established, their relative value as a therapeutic agent continues to be a subject of argument between the extreme optimists who extol them as a panacea with a well-nigh unbounded sphere of usefulness, the skeptics who look upon them as one of the ephemeral fads of medical art, and the conservative critics who recognize the good which these mysterious radiations, if controlled by an intelligent hand, are capable of doing in properly selected cases.

The striking diversity of opinion is not astonishing when we consider the comparative novelty of the subject and the absolute lack of a uniform mode of procedure, which alone would serve as a fair criterion in arriv-

ing at practical conclusions. Thousands of physicians, representing as many individualities in a diagnostic, therapeutic, technical and radiologic respect and as many degrees of aptitude for this particular kind of scientific work, from the fitness of the medical physicist down to the disqualification of the mere amateur radiotherapeutist, have added to the sum-total of the work done and to the more or less scientific results evolved. Amid this formidable mass of material the student of radiotherapeutic lore is at a loss and must necessarily be influenced by the individual opinions of the authors he reads and of the operators with whose work he is familiar. Accepting, then, the personal equation of the individual operator as the only available criterion of the therapeutic value of the Roentgen-rays, the relative value of his opinion would largely be determined by the method he follows and by the amount and character of the gray matter which he can bring to bear in applying his method and in arriving at conclusions.

Gauging X-Ray Dosage.—To be able to gauge the dose of the Roentgen-ray energy coming from the excited tube is the one coveted aim of every reflective radiotherapeutist. That the fluorescent element in the energy is not the therapeutic *agens* and that the activity of an excited tube results in the production of more than one modality of radiation there seems to be no reasonable doubt.

The instrument known as Walter's skiameter measures the penetrating power of the fluorescent element, whatever the latter may be. It is a manifestation of force characterized by exquisitely fine and rapid vibrations of short waves, much finer and more rapid than the cathodal radiations which are long-waved and comparatively sluggish and require for their transmission a relatively low vacuum. When the intratubular pressure rises, the output of cathodal energy becomes relatively less, unless the *vis a tergo* is reenforced (e. g. by a spark-gap on the negative side).

Nature of Cathode Induction-Energy.—Whatever the therapeutic element in the Roentgen-energy may be, I find it convenient to look upon it as a form of induced energy generated on the outside of the Crookes-tube by the cathodized molecules of ether impinging upon the inner surface of the glass tube. This cathode induction-energy is an *ultra*-ultra violet radiation (vibrations beyond the limit of the socalled ultraviolet spectrum) and has many of the characteristics of the actinic rays of the solar spectrum. Here seems to be the borderline where the *photo*-therapy of Finsen and the *radio*-therapy of Roentgen touch.

The quantity of the cathode induction-energy of the Roentgen-tube may be considered as being in direct proportion to the velocity or penetrating power of the fluorescent force-modality. It is of no consequence whether or not we attempt to define the relationship of the two forces to each other and their power mutually to modify each other. Freund suggests that the cathode induction energy is forcibly propelled, scattered, and in this way attenuated, the more the intratubular pressure rises. The lower the pressure, the greater the concentration of the cathode induction-energy. It becomes thick and sluggish and explodes on the cuticle if the tissues of the animal body are exposed to it.

This makes the low tube the ideal therapeutic tube, the skin the scene of therapeutic action. With these concepts firmly fixed in our mind we can define the therapeutic indications of the Roentgen-rays with some degree of accuracy.

Management of Walter's Skiameter.—The dose of the Roentgen-rays may be gauged with the aid of Walter's skiameter. If the tube lights up four of the test-holes of the instrument it is a moderately soft (or good therapeutic) tube.

As a standard for distance of the skin from the outer surface of the glass tube and for duration of treatment, we may adopt, respectively, 10 inches and five minutes. Thus, in recording an x-ray treatment, we note the physical characteristics of the tube as revealed by Walter's skiameter, the distance of the tube from the skin, the length of time consumed by treatment and the frequency with which the latter is repeated.

Increasing the dose means to lower the intratubular pressure, to lessen the distance, to prolong the seance, to repeat it at frequent intervals. This is to be taken relatively, because below a certain degree of exhaustion the characteristic phenomena resulting from proper excitation of a Crookes-tube are absent.

The question of distance between skin and tube seems to have found its proper answer in the accumulative evidence of experience, which has fixed the proper distance between 10 and 20 inches.

An element of uncertainty and yet of great practical importance is the response of the tissues of the individual organism as shown in the ever-variable resisting power of the latter. This is, as it were, the *personal equation* of the patient. In view of all this, it is apparent that the term *dosage* in connection with Roentgen-therapy must necessarily have a relative meaning.

COMMENTS ON THE LESSON

We shall appreciate any assistance on the part of our students in making this part of the lesson more attractive. Get busy, everybody! Let's stir things up! No matter if it is the lazy summer time when everyone who can get away is "taking a vacation." Those of us who remain at home have time for the hardest kind of work. Weave into your "narrative" something of your personal experiences. Make it *personal* and therefore doubly helfpful. We have had some reports, which have been published here, which have been admirable. More this month! We want still more of them—more practical help, more stimulus. Write to the Director and suggest how to make the course better.

We are now drawing near the close of the first part of the Course. We shall soon take up the study of Applied Therapeutics. This promises to have great interest. At the beginning of this period there will be a splendid opportunity for many more students to enroll. There are not a quarter of what there should be. If you are not already "in," why not make your plans to commence and—commence now. While the year's work is well advanced it is not too late.

Don't forget the certificate. Those who received that accorded for the first year's work were greatly pleased with it. Better plan for one of your own. Today?

There are so many good things in the review that we are constantly tempted to "turn back" a lesson or two—and so we do this month, quoting first some experiences in the treatment of insomnia.

Treatment of Insomnia.—Dr. A. S. Thompson describes a case showing how these cases can be relieved and often cured by cleaning out the alimentary canal: "A transient visitor to our village came to my office several years ago and asked for some veronal, saying that he could not sleep without drug assistance. I examined him and found striking proofs of intestinal autotoxemia—constipation, coated tongue, foul breath, headache, irregular cardiac action, and mental disturbance. His business worried him greatly. His appetite was good but capricious. A man of sixty. I cleaned him out good with calomel and saline; cleaned him up with the sulphocarbolates and gave a little sodium bromide at bedtime. There was decided improvement. Later I heard of his death, said to be due to an overdose of the veronal—which he had resumed. It was evident that he did not persist in the treatment which I had outlined, and which, in a short time, had done so much for him."

Dr. Wm. C. Post, of Maquoketa, Iowa, always has something good to say. He reports the following case of insomnia and his method of treatment:

"Miss J. B., single, age 39, brunette, slender, neurotic, consulted me for insomnia which had existed for more than a year and had been treated by several physicians without apparent relief. Her skin was dry and earth-tinted, she had no appetite, was constipated to an extreme degree; urine scanty, loaded with phosphates and tinged with bile, very acid and irritating to external parts. She was deeply melancholic and had excited the alarm of relatives and

friends by threats of suicide. Treatment was as follows: Saline laxative every morning, calomel and podophyllin every night for three nights followed by graduated doses of Waugh's anticonstipation granules, which were gradually lessened as improvement progressed.

"She avowed that she could not possibly drink water, but was put on half-pint doses gradually increased to a pint, an hour before meals, each dose containing five minims of fluid extract of quassia. These doses were prepared by her nurse and she was not informed as to their constitution. Every morning she had a full hot bath for fifteen minutes followed by a sprinkle-douche of cold water from the shoulders down (using an ordinary garden watering-pot with rose nozzle) lasting ten minutes, followed by towel rub. At bedtime she had a tepid bath for twenty minutes and was carefully wiped dry, without rubbing, and put to bed.

"No hypnotics were administered during treatment. Her skin rapidly cleared up, her bowels became regular, the output of urine increased to from sixty-four to eighty ounces and her sleep became regular, quiet and restful. The only other medication besides the saline laxative and anticonstipation granules, consisted of fifteen grains of triple sulphocarbolates an hour after meals. Her daily food was carefully selected to meet indications, and after two months of treatment she became well and remained so. Six months after treatment her weight had increased thirty-five pounds. She continued to use the morning bath followed by sprinkle-douche and rubbing after convalescence, ascribing her relief largely to that procedure."

Restoratives and Alteratives.—Dr. C. E. Buckley, Chicago, differentiates between these two classes of remedies as follows:

"Restoratives are remedies which, when administered internally, during certain pathologic states, act similarly to foods, by supplying needed elements which are normally contained within the body.

"Alteratives are remedies which when administered internally during disease processes stimulate and alter the nutritive functions, either through action upon the glands of the body or otherwise, in some manner not satisfactorily explained.

"Restoratives are natural constituents of the body. Alteratives (commonly at least) are not natural constituents of the body."

Some Iron Preparations.—Some valuable information concerning a number of the iron salts is given by Dr. V. S. Ernst, Bridgewater, N. S., as follows: "Iron arsenate contains 37 percent of iron and 63 percent of arsenic; the dose is 1-6 grain three to six times daily. Iron arsenate is the reconstructive of the blood *par excellence*. Hare advises it in anemia, with dry, scaly skin diseases. Iron iodide is given in doses of 1-12 grain every two hours; indicated for anemic syphilitics. Iron phosphate is indicated for any case where the arsenate is contraindicated, especially if phosphorus is also desirable; dose 5 to 10 grains, according to Br. Ph. Ferrous sulphate is given in 1 to 5-grain doses and is a favorite with many doctors in the treatment of chlorosis; frequently given in Blaud's pill. Iron valerianate is indicated where an antispasmodic and nervine is desired in addition to the iron."

Indications and Contraindications of Iron.—Dr. Ernst answers this question as follows: "Iron is contraindicated as a rule in plethora, vascular fulness, great strength and activity of organs, excessive tonicity, fever, acute inflammation, cerebral congestion, intestinal irritation, when tongue is coated or red and irritable, in biliousness, during the menstrual period in menorrhagia, and in amenorrhea if patient is of tense fiber.

"Iron is indicated in chlorosis, as a rule, but if the anemia be due to some poison vigorous efforts should be made to eliminate the same before beginning its administration. It is indicated in ordinary convalescence from acute disease; when the red blood-corpuscles are below par in numbers or in the amount of hemoglobin which they contain; as a tonic in debility.

"In cases where both an indication and a contraindication exist much judgment is

required; but as a rule we allow the latter to carry the most weight and select some other remedy. The age of the patient should also be taken into account, as young people (except very small children) and people in the prime of life bear this remedy better than the aged."

Comment on Restoratives.—May the Director rise to a few remarks on this subject? If so—

Restoratives are natural to the body or are analogous to some normal ingredient of the body. They act by supplying some deficiency in the animal organism, or by their presence restoring the deficient element or secretion. Iron or fats, for instance, act in certain forms of anemia in which these ingredients are wanting in the red blood-corpuscles; phosphorus or the earthy salts behave similarly in conditions where the tissues are deficient in these necessary constituents; pepsin, pancreatin and bile salts are restoratives and are given where these substances are deficient; and vegetable bitters, though not natural ingredients of the system, act upon the gastrointestinal mucous membrane, stimulating the glands to secrete a larger quantity of normal digestive fluid and may, therefore, be classed under the restorative

Restoratives being natural ingredients of the system are not poisonous and, when indicated, will produce no special symptoms of their own, given in medicinal doses.

Alteratives are unnatural to the system, and are more or less poisonous. Their method of action is unknown. They probably act in different ways; they undoubtedly stimulate cellular activity, favor greatly the elimination of toxic waste products and increase metabolism. Alteratives, unlike restoratives, can be administered without injurious results only in *diseased* conditions, in which the particular remedy combats in a socalled specific manner the cause of the disease. When indicated and given in proper doses they, like restoratives, produce no symptoms of their own, the patient being unaware of their action save by a recognition of his gradually improved condition. Should, in fact, symptoms occur under the administration of alteratives, they should warn us that the remedy is not indicated or the dose unsuitable.

A genuine alterative seems to have the property of antagonizing some disease. For instance, A and B are put under a prolonged course of mercury: A is rendered weak, anemic and is salivated beyond recognition, while B's health improves—simply for the reason that B has syphilis, which A has not.

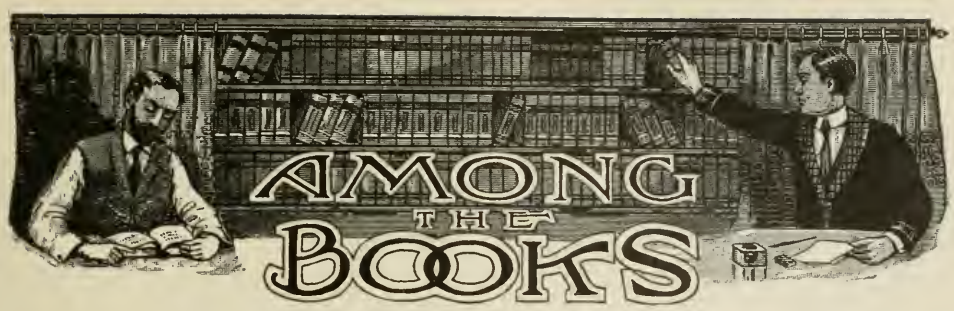
The remedial effect of both restoratives and alteratives is never obtained by the exhibition of a single dose, but only after prolonged administration; they require *time* to produce beneficial results. Symptom-medicines, on the contrary, usually produce their effect in one dose. They are given only to relieve symptoms.

EXAMINATION QUESTIONS

1. What are the principal alkalis used in medicine and which salts are most employed?
2. In what forms are potassium, sodium, calcium and magnesium found in the body and in what relative quantities?
3. What is the significance of hyperacidity of the urine and how may it be corrected?
4. What relation is there between the reaction of the blood and of the urine?
5. What influence has the administration of alkalis upon metabolism? Upon quantity and character of urine?
6. In what form and dosage do you administer the alkalis? How do they affect the gastric digestion, and in what stomach troubles are they useful?
7. Differentiate between the action of the potassium, sodium, lithium, calcium, magnesium and ammonium salts.
8. Describe the various therapeutic uses of the alkalis, and tell those of choice in each instance.
9. What is the present status of the X Ray, from a therapeutic standpoint? What is the nature of Roentgen-energy?
10. How may the dose of the X-Ray be measured?

RESEARCH QUESTIONS

1. What alkaline salts are the most markedly alkaline in reaction?
2. How is the degree of alkalinity measured? The degree of acidity?
3. What is a decinormal solution? How much NaOH in a liter of decinormal solution of sodium hydrate?
4. What is the normal reaction of the stomach-contents? of urine? of blood? Give average in each case, in approximate figures?
5. What is meant by acidemia, what are its common symptoms and how is it best treated?



HOGE'S "DIAGNOSTIC URINALYSIS"

Diagnostic Urinalysis. By Dr. M. D. Hoge, Jr., Richmond, Va. University College of Medicine. Price $1.00.

A book of only 93 pages but in which the whole subject implied in its well-selected title is admirably presented in a succinct and comprehensive manner. When you have heard lectures on urine analysis, attended instructions in the laboratory, read one or more good books on the subject, and you want now in practice some handy short statements of the many facts involved, to apply them as a guide in your daily battle with disease, we heartily recommend Dr. Hoge's little book. Get it and become familiar with it, and you will have an ever-ready efficient consulting friend.

MINOT'S "GROWTH AND DEATH"

The Problem of Age, Growth and Death. A Study of Cytomorphosis, Based on Lectures at the Lowell Institute. By Charles S. Minot, LL. D. Illustrated. New York and London: G. P. Putman's Sons. 1908. Price $3.00.

An intensely interesting book. The reviewer was fairly charmed in this his first acquaintance with the author's unrestrained and original searching thoughts. Pleasing too is his preserving that suave mode of expression where he differs from accepted notions, so far from the offending language of some small heads in big places who at their tender age feel themselves big-headed enough to upset the beliefs of the Old World. Minot is big enough not to be afraid to say, "I don't know", where small "scientists" would fear doing lest they seem to confess their knowledge-nudity. He is unwilling to admit that we can never know what life is essentially until we shall have studied the properties of vitality and so shall have removed our present ignorance of them; and to the study of this he devotes his volume.

In his long years' study at the microscope and its wonderful modern chemical and physical helps at home and abroad, listening to and seeing the demonstrations of the great biologists and embryologists of the world, the author has become convinced that age, growth and death are bound together by the transformation of cells—cytomorphosis—and that death comes about not by the wasting of protoplasm but rather by its augmentation, simultaneous with the dwindling of its nucleus, which is its master. There are curves and currents and mighty waves of thoughts sweeping throughout the entire book which reminded me of some of Beethoven's sonatas in which around an often-recurrent simple melody harmonies involve and evolve and charm and keep us spellbound to its sounds. So around the apparently simple proposition the author weaves the beautiful garment of life from the human cradle to the grave, and that garment suits me. But the author is neither importunate nor tyrannic to thrust that garment upon others. "You ought to know," says he on p. 249, "that the interpretations which I have offered you are still largely in the personal stage. Whether my colleagues will think that the body of conceptions which I have presented is fully justified or not I cannot venture to say." I have read the

book from cover to cover once, and in closing it I said to it, "*Auf wiedersehen!*"

BATESON'S "GENETICS"

The Methods and Scope of Genetics. An inaugural lecture delivered the 23rd of October, 1908, by W. Bateson, M. A., of the University of Cambridge. New York: G. P. Putnam's Sons. 1908. Price $0.50.

The new word "genetics" refers to the biological subjects of heredity and variation. This lecture discusses the interestingly important intricacies of these engrossing questions and aims to pave the way to their possible solution.

DYKE'S "CORRESPONDENCE SCHOOL OF MOTORING"

To the man who has just purchased one, an automobile seems almost like an unsolvable problem—and such, unfortunately, it remains to many. There is certainly an opportunity for thorough instruction concerning it, of a character that can be grasped readily by the average person. This, at last, has been supplied by Dyke's "Correspondence School of Motoring," which supplies lessons by mail in the automobile engine and automobile locomotion. The course of instruction is supplied in twenty-four lessons, each complete in a separate booklet. It commences with a description of the different parts of the motor vehicle and passes by easy steps to a discussion of its most intricate phases. It is essentially inductive. These lessons are written in such simple language and the different steps are followed up with such painstaking care that anyone who can read and will "stick" should arrive at a clear understanding of the different forms of the engine, the magneto and all the other intracacies of the machine.

Adding greatly to the value of the course are the working models of the gasolin engine and the magneto, which are supplied to every student. These are marvels of ingenuity. There is also a useful "trouble book" while the student has the further advantage of the personal advice of the author, Mr. Dyke, who was not only a pioneer in this field but is a recognized authority in it.

The price of this course is only $10.00. Address Dyke's Correspondence School of Motoring, 3947 Washington Boulevard, St. Louis, Missouri.

CABOT'S "DISORDERS OF THE BLADDER"

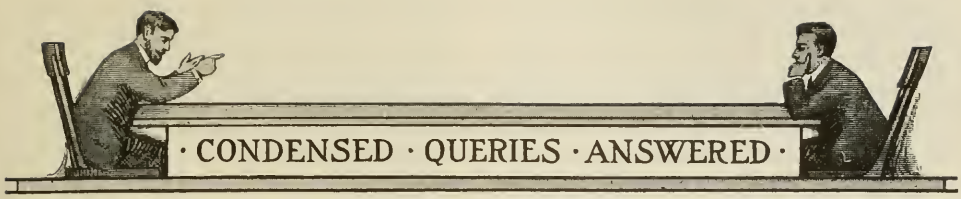
Clinical Diagnosis and Treatment of Disorders of the Bladder, with Technique of Cystoscopy. By Follen Cabot, M. D., of the Post-Graduate Medical School, New York. Illustrated. New York: E. B. Treat & Co. 1909. Price $2.00.

A valuable monograph written by a careful surgeon and containing his own experience. The part on senile prostatic hypertrophy, on more than eighty cases of which he operated with very few fatalities, is highly interesting. Few of the older readers of these lines but will recall to mind cases in which cases of cystitis worried them more than any other in their practice. They will find in this book much that will interest and profitably instruct them.

WILE'S "BLOOD EXAMINATION"

Blood Examination in Surgical Diagnosis. A Practical Study of Its Scope and Technic. By Ira S. Wile, M. D. New York: Surgery Publishing Company. 1908. Price $2.00.

Dr. Wile gathered together in comparatively small compass a fund of information that will make surgical diagnosis easy and accurate by blood examination. The necessary information is given here in concise form, summing up excellently a vast part of hematological literature. This excellent work will be a great help also to the general practician, and valuable as well as a laboratory guide. The printing, illustrations and marginal notes deserve special mention.



PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report the results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

ANSWERS TO QUERIES

Answer to Query 5460.—"Eclampsia." C. O. R., Mexico, can prevent eclampsia in his next confinement by giving 15 to 30 grains of potassium acetate dissolved in one fluid dram of peppermint water, thrice daily. Out of 1300 labor cases I have lost some five or six cases from puerperal convulsions. In all of these cases the patients were dying when I first saw them. I decided to try potassium acetate and had the satisfaction of carrying three cases through without convulsions. One woman was built, as in the doctor's case, very florid and stout. In all my cases I ordered a large bottle of the mixture, six ounces or more. When the patient is free from pains, etc., the remedy can be discontinued for a time. Headache calls for pushing it again. I am in special practice—eye, ear, nose and throat—since 1895. Try it and let us hear of your success or otherwise.

W. J. H., Pa.

QUERIES

Query 5467.—"Aconitine." S. H. D., Georgia, wishes to be informed why there are not smaller granules of aconitine for children. He notices that it makes their mouth tingle and some object to taking it on that account; not the taste but the tingling sensation.

He also asks: "Does Candler in his work on children's diseases mean the regular (standard) granules when he refers to treating children? I notice he gives nearly as much as a half granule at a dose of some of the medicines, yet we are told to make twenty-four doses to the number of years old, that is a five-year old we put six granules to twenty-four spoonfuls of water."

When you give aconitine to children give a solution. Were the mouth not to tingle we should not have much aconitine present in the medication. If a granule of aconitine is swallowed promptly with a mouthful of water very little tingling will result, but when we are dealing with the little ones we nearly always make a sweetened solution. Candler refers in his book to the standard granules, which are the minimum known-to-be-effective dose for an adult, consequently about the average full dose for a child.

There is no minimum or maximum dosage for the positive therapeutist as the amount of drug which will affect "A" will not affect "B" or even "A" under different conditions. The only safe rule is to give the granules in small, repeated doses to effect—remedial or physiological.

When dealing with extremely toxic alkaloids such as aconitine, veratrine, cocaine, etc., the Shaller rule applies, but this is ultra-conservative and we do not hesitate to give much larger doses—from one-fourth to a full dose hourly or even half hourly to effect—remedial or physiological. If the physiological action of the drug is evident before remedial results are obtained we have either given the wrong drug or omitted some important therapeutic procedure.

In using nontoxic alkaloids, Doctor, do not hesitate to give a full dose and as you become thoroughly familiar with the active principles and their uses give doses according to conditions. In this connection let us urge you to read the answer to a query which appeared in THE AMERICAN JOURNAL OF CLINICAL MEDICINE for April.

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QUERY 5468.—"Seasickness." H. Q. A., North Carolina, asks for suggestions as to the treatment of seasickness.

It is not feasible to say such and such a drug or combination of drugs "will prevent seasickness." Under ordinary conditions it might do so in A's case, but B would fail entirely to respond to similar medication because of some constitutional peculiarity or systemic derangement.

The best suggestion you can make in such cases is this: The night prior to sailing take small doses of calomel and podophyllin, and the next morning upon rising a laxative saline draught in a glass three-fourths full of water. Eat lightly in morning and should the motion cause nausea or discomfort, adopt a prone position and take strychnine, atropine (or hyoscine) and caffeine, one small dose of each, repeating in half or one hour. Sometimes a hyoscine-morphine combination will act more perfectly than anything else, but it is not safe for the laity to medicate themselves with powerful drugs at any time. The simpler procedures mentioned above may, however, always be recommended to intelligent people.

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QUERY 5469.—"Sulphocarbolates to Infants." J. W. H., Washington, asks for the most practical way of administering the sulphocarbolates to children or infants.

The best way to administer the sulphocarbolates to infants is to make a solution, sweeten with saccharin, give with a dropper or teaspoon and follow with a little plain water. The sulphocarbolates may also be mixed with sugar of milk dropped upon the tongue and swallowed with water.

Older children can take a sweetened and mentholated solution, the powdered tablet dry on the tongue or the tablet itself—always with a draught of water. Some "pernicity" children take the sulphocarbolates (and all other medicine) best in capsules, the capsules being dipped in milk or water and flipped into the throat, or placed on the back of tongue and swallowed with a little jelly, tea, milk or other fluid. We almost always exhibit the solution.

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QUERY 5470.—"Populin and Eupurpurin." W. N. D., Missouri, asks for information on populin and eupurpurin.

Populin is not very widely used. It is derived from the white poplar and gives excellent results in mild malarial cases. It is tonic, antimalarial and diuretic. It has been used in the south to some extent after the virulence of the malarial attack is passed. Many observers speak of populin as giving excellent results in tenesmus, cystitis, hypertrophy of the prostate, etc. In the irritable bladder of old age it has occasionally proven beneficial. The usual dose is 1-6 to 1-3 of a grain before meals and at bedtime.

Eupurpurin is a concentration of queen of the meadow. It is serviceable in dropsy, strangury, diseases of the kidney and bladder of an inflammatory character, etc. It often relieves uterine disorders, endometritis, etc. In the uric-acid diathesis it gives splendid results, frequently markedly increasing waste.

Eupurpurin and populin might under certain conditions be well given together, 1-6 to 1-3 grain three times daily being the usual dose.

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QUERY 5471.—"The Use of Several Remedies." A. B., Connecticut, pleasantly criticises the frequent suggestion of several remedies for disorders described by physicians in the query columns. "Would not," he says, "one remedy be better and more scientific? Further, if results follow (and they usually do), how can the doctor tell just which drug met the conditions? Your teaching 'single principles for single symptoms' does not seem to hold here and I expect many a doctor, while admiring the effect of the medicines recommended, has wished that he knew just where the credit should be given. Don't think for a moment that I am dissat-

isfied with the *effect* of the combinations (my frequent requests for 'more advice of the same kind' shows that such medication gives me results) but I would like to know just why you so often combine three or more drugs having a very similar therapeutic effect."

In the last sentence the doctor strikes the chord, which, followed out, will provide the entire *motif*. We recommend "*several* drugs having a very similar therapeutic effect" because we cannot be *sure*, with our incomplete conception of individual clinical conditions, just which one is distinctly indicated. The positive therapeutist worth the name will very quickly select the precise remedy for the disorder—if not in the first then in some subsequent case.

For a given clinical picture we recommend, let us say, iridin, leptandrin and podophyllin. If the doctor knows his materia medica at all (and experience teaches us that he is rapidly becoming proficient) he grasps the main remedial suggestion and refines it by exhibiting iridin and leptandrin, the indications for these two drugs being most distinct. We cannot *shade* our therapeutic suggestions too finely for the simple reason that we cannot *see* the patient, and as a rule have to derive our conception of his condition from a very incomplete clinical report. Still further, as a matter of fact, the doctor writing for suggestions is usually more or less on trial—or "up against it," if we may use the expressive colloquialism—and simply *must* get results. Were we, with our limited comprehension of conditions, to attempt a *too* artistic and precise selection of remedies, failure would inevitably result time and time again and, before the querist could write us, "Iridin does not seem to work satisfactorily in this case, suggest something else," and we could reply, "Try leptandrin and, if that fails, push podophyllin," the patient would quite likely have secured another doctor!

From many years' experience in diagnosing from description the writer is able to select, nine times out of ten, a basal line of medication which will in its entirety produce the desired effect. Skilfully modified, naturally the same medication will prove even more satisfactory. That these are *facts* is definitely proven by the reports which we receive from the physicians seeking counsel. Being modest—and desiring space for more practical matter—we do not of course publish communications recounting successes, but they come in very steadily and we have the pleasure of knowing that we have aided many and many a weary, puzzled doctor to "win out."

Moreover, it is often necessary to do several things at one and the same time. We desire to clean out and keep clean the primæ viæ. A few doses of calomel and podophyllin or blue mass and soda at night and a saline draught the next morning on rising will accomplish that. Now, we have also disordered circulation, gastric insufficiency, insufficient elimination and a systemic infection from intestinal fermentation.

"The circulation will improve when the underlying disorders are corrected", you may say. True, but it is desirable to force such improvement as a rule, for a promptly improved circulation helps us secure other results. We therefore order the trinity morning, noon and night (may even add strychnine if there are signs of heart-tire) and order also before each meal some such combination as quassin, juglandin and papayotin. These three drugs will meet the conditions which present most frequently.

Now we have taken care of gastric insufficiency but the elimination of solids is also below standard. Juglandin helps us a little here but boldine and xanthoxylin will certainly "do things;" moreover, every one of these drugs is therapeutically compatible and we firmly believe in "the remedial action of a synergistic whole." So, the patient finally receives a very small quantity of several medicines but, the combination meets several conditions—and produces results—which is the main thing after all."

Now, if we can put a stop to the intestinal fermentation and prevent the appearance of indican in the urine we shall most certainly have benefited the individual and, in one way and another, aided in restoring normal body-chemistry.

So, one hour after food we order the bile salts with pancreatin and sodium sulphocarbolate. Note, please, how much work those three remedial agents will accomplish!

A moment's contemplation will show that we have now cleaned the intestine from gross debris, stimulated elimination, improved digestion and assimilation, taken care of the fermentative condition and checked bacterial production and at the same time have aided generally the restoration of normal conditions by improving cardiac tone. All this work could be accomplished by degrees and by the exhibition of one—or at most two—drugs at a time. But the doctor asks for *help* and, naturally, wants to get positive and prompt results, so we outline treatment along the lines described herewith. His patient is benefited, the intelligent practician has studied the action of the drugs which produced results and very soon finds himself able to practise a refined and exquisitely effective therapy.

We trust that the recommendation of several remedies will henceforth be understood, not as opposing the use of the single principle but as broadly illustrative of a therapeutic plan capable of indefinte refinement.

—

QUERY 5472.—"Estimation of Urea. Proportion of Active Principles." J. L. S., Virginia, presents several questions to which he desires answers:

1. What is the simplest and most accurate method of estimating, quantitatively, the amount of urea? What is Hüfner's method and where can the apparatus and reagents be obtained? I am using Squibb's method, but it is troublesome and not very satisfactory.

2. How many drops of Lloyd's specific colchicum is equivalent to colchicine, gr. 1-134 or .0005 Gm.?

3. How much specific juglans is equivalent to juglandin, gr. 1-6 or Gm. .01?

4. How much specific medicine xanthoxylum is equivalent to xanthoxylin, gr. 1-6 or .01 Gm.?

The hypobromite method is the simplest and most accurate method of estimating quantitatively the amount of urea, using preferably a Doremus ureometer. This method is probably 8 percent away from the actual figure, but all the present methods, aside from the Kjeldahl nitrogen estimation, are equally inaccurate. If you use the same method each time the approximate results will be altogether satisfactory. By the way, the estimation of urea is one of the most important factors in urinary examinations and should be made as a routine.

In considering questions No. 2, 3 and 4 we shall have to ask you to reverse your reasoning process and figure your medication in alkaloids. It is impossible to say that so much of a fluid preparation will contain a certain amount of colchicine, juglandin, xanthoxylin, etc. Theoretically, so much of the active principle *should be* present but practically the content varies from the vanishing point upward. Lloyd's "specific medicines" are, however, unquestionably as "evenly active" as fluids ever can be.

The alkaloidal doses recommended are the "smallest known-to-be-effective dose" of the pure active principle for an *adult* and this small dose repeated to effect upon the individual is *the dose* for that individual.

Our chemist says that 2 minims of specific colchicum equals (approximately) 1-134 grain colchicine; 1 minim specific juglans equals 1-6 juglandin; 1 minim specific xanthoxylum equals 1-6 grain of xanthoxylin. The latter is a concentration only, juglandin is a resin.

—

QUERY 5473.—"The Causes of Hernia." F. L. S., Missouri, wrote: "Will you kindly give me the correct definition of inguinal and femoral hernia? In reply we sent the following letter:

"Any modern work upon surgical diagnosis, or even a medical dictionary, will give you a clear definition of both conditions.

"Inguinal hernia (acquired) is an extrusion of the intestine through the inguinal canal, the intestine still retaining its perineal pouch. The hernia may be within the canal (bubonocele) or may descend into the scrotum; in the latter case the testis is always below the hernia.

"Congenital inguinal hernias are scrotal from the beginning. The form is cylindrical; the hernial mass is adherent to the spermatic cord. Undescended testicle and hydrocele are frequent complications. If the testicle is in the scrotum the hernia lies in front of it.

"A femoral hernia is a very distinctive condition and is a protrusion of a coil of intestine through the femoral ring. Your knowledge of human anatomy will enable you to promptly distinguish the femoral from the inguinal orifices. A femoral hernia is distinguished from enlarged femoral glands by the fact that the hernia is reduceable usually with marked gurgling; the glands on the contrary are irreduceable. Furthermore an impulse is conveyed to the hernia upon coughing; coughing does not in any way affect glands. An internal saphenous varicosity is differentiated from a femoral hernia by the absence of all signs (physical) of a hernia and by the fact that it reappears from below upward even though pressure be made over saphenous opening. We trust that this information may be of service."

The doctor thereupon wrote: "I think that I know what a hernia *is*, but what I wanted to know was, what is the *cause* of hernia—the principal cause."

The precise cause of hernia is not always clear. Abnormal length of the mesentery giving the intestine undue freedom of motion often exists. In many cases an abnormal distribution of fat in the tissues of the inguinal and femoral regions diminishes their resisting power. If the inguinal canal fails to close after the descent of the testicle we may expect hernia. Violence causing separation of tissues would naturally result in a hernia. We often see this condition in children with relaxed abdominal walls and in women, after delivery. A hernia may contain intestine (enterocele), omentum, a portion of the bladder (cystocele), and part of the cecum (cecocele), etc. One of the rarest forms of hernia is obturator hernia, the viscera passing through the obturator foramen along the course of the artery and nerve.

—

QUERY, 5474.—"Insomnia." A., Iowa, in a recent letter says: "I wrote you a long time ago about a patient, nervous, unable to sleep, weak and emaciated. Patient does not sleep yet, only when made to. Have given every hypnotic known and am now giving veronal. I do not believe all this is good for her. What would you prescribe?"

Just as long as you exhibit somnifacients alone you will have to give them. The thing is to discover the cause of the insomnia and remove it. Did you try passiflora in full doses? Cerebral anemia would require one line of medication and cerebral congestion another. The question is which (if either) condition is present in this case. Suppose you make a thorough examination of patient and secretions and so gain further light upon the subject. In the meantime combine passiflora and avenin. Read the articles on Insomnia that have appeared in the Post-Graduate course during the last two or three months.

—

QUERY 5475.—"Aconitine Dosage. Chronic Gonorrhea." L. F. K., Massachusetts, (1) gave a patient with severe facial neuralgia 1-45 grain of amorphous aconitine at half-hour intervals—five doses all told. It stopped the pain. An "old-time doctor" told her the dose was "enough to kill her." The doctor stayed with her two hours and she had no symptoms except absolute relief and slept all night, whereas the "old-time doctor" had given her a dose of five or six remedies, compounded, with slight temporary relief. The pain started from a tooth and affected the jaw, then the whole side of face, and lasted two nights and days. This was a week ago and no trouble since. Another patient with facial neuralgia, took *one drop* of tincture of aconite(homeopathic) and got permanent relief. How about the poisonous dose?

2. A man with gonorrhea of three years' standing wants examination for any hidden trouble. The doctor can find nothing. He asks: "Would a thorough examination of urine alone tell the tale? I don't think I'd get anything from it, but I'd pay a reasonable amount myself to be sure. In case of any trouble it might be worth knowing before hand."

1. The conditions present in the individual must of necessity regulate the dosage to a very great extent. What would be a toxic quantity of the drug for one patient would prove entirely innocuous to another. This is illustrated very beautifully by the amount of aconitine necessary to control the severe facial neuralgia. Had not such a condition existed 15 aconitine granules might have caused trouble. One drop of tincture of aconite is a small dose indeed, and we think that suggestion possibly had something to do with the cure in the second case. You know people are deathly afraid of aconite.

But after all, doctor, we know now that the small dose repeated *to effect* is the rational rule. A may respond to one dose; B may require three and C ten times the quantity; D, again, presenting seemingly identical conditions, may show symptoms of drug sufficiency before remedial effect. In the latter case we have either selected the wrong remedy or omitted some other essential therapeutic procedure. If 1-100 grain of a drug will give relief, why exhibit 1-6 or 1-3 grain?

2. If there is any discharge from the urethra at all (morning drop or otherwise) make a smear and have it examined. The first urine voided in the morning might also be examined, and in order to be very positive milk the prostate and send a specimen of the secretion. Do not forget to examine the lacuna magna.

—

QUERY 5476.—"Vomiting of Pregnancy." W. G. A., Michigan, describes conditions present in a patient of his and asks for suggestions as to treatment. A young woman, four months pregnant—never pregnant before—has slight edema of the ankles. She vomits excessively; at first this occurred in the morning on rising but now it comes on in the afternoon and evening. Cerium oxalate controls it to some extent. The neck is getting large and it worries her; it was somewhat large before she commenced this vomiting—possibly a tendency to goiter.

Shortly after becoming pregnant a polyuria developed. She urinates twelve to fifteen times a day and gets up four to six times a night. Desire comes suddenly and is very imperative. The doctor has been using arbutin every two hours but she skips a good many doses. It seems to have helped her. Patient is rather nervous; her arms and legs will often jerk in her sleep. Urine for 24 hours (this time) 2250 Cc.; color and odor normal. About a week ago she collected 2800 Cc. in twenty-four hours. She is very constipated; and her bowels refuse to move without aid. The patient also has leucorrhea.

Place upon this woman promptly a snug and thoroughly supportive abdominal belt and give small doses of hydrastin, viburnin and ergotin every four hours. If this does not control the polyuria add hyoscyamine. Morning, noon and night give aconitine, digitalin and strychnine arsenate to equalize circulation.

Vomiting of pregnancy is usually easily controlled by the following procedure: Have the patient take before each meal bismuth subnitrate three grains, cerium oxalate two grains, cocaine hydrochloride, 1-24 grain. This combination may be regarded as almost specific. One-half to one hour before rising in the morning the patient should receive a cup of hot milk and water, milk, weak cocoa or tea, the tea being preferable in most cases. This should be taken through a bent tube and while recumbent. The woman then remains perfectly quiet on her back for half an hour at least. She may then receive her before-meal medication, arise and have breakfast. A woman thus treated and provided with a snug abdominal binder practically never vomits after the first week, except in very unusual and intractable cases.

To loosen the bowels, use phenolphthalein with senna and sulphur. Give "dose enough" at bedtime and stop present laxative; the aloin is undesirable. Do not lose any time in getting on that belt and push medication from the earliest possible moment. I hope you will try this method and report your experience. We should have more reports of this kind. They are helpful.

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Inflammation and irritation of the skin, of any kind and from any cause, will promptly respond under the local application of

RESINOL OINTMENT

Alone or conjoined with systemic treatment as may be indicated, the efficiency of RESINOL has been demonstrated in thousands of cases of skin affections by many physicians, and their reports of the excellent results obtained furnish unquestionable proof of the value of this remedy. RESINOL has earned the reputation of being the best remedy for Eczema, Herpes, Erythema, Erysipelas, Seborrhea, Psoriasis, Eruptions of Poison Oak, Burns, Scalds, etc. It is equally valuable for inflamed mucous surfaces and very effective in all local inflammatory conditions. It is being prescribed daily for these affections in almost every country of the world.

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Also contains the RESINOL MEDICATION, and it is the only Soap that should be used in bathing by persons affected by any skin trouble whatever; for it not only assists in the cure, but also prevents the recurrence and development of many skin affections. For bathing chafed and raw surfaces, and to cure and prevent Acne (Comedones and Pimples) it is unexcelled. It also prevents Dandruff and overcomes the tendency to profuse and offensive Perspiration. The tonic glow of health the daily use of this Soap produces is simply delightful.

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Were you ever found guilty of dropping my subscription to THE AMERICAN JOURNAL OF CLINICAL MEDICINE you would have me to whip when I visit Chicago. Its pages are a continuous inspiration to me in my work. As this is Arbor Day I am going to take the liberty of planting a tree to your excellent journal where its leaves shall eventually grow for the "healing of the nation."

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Salt Lake City, Utah.

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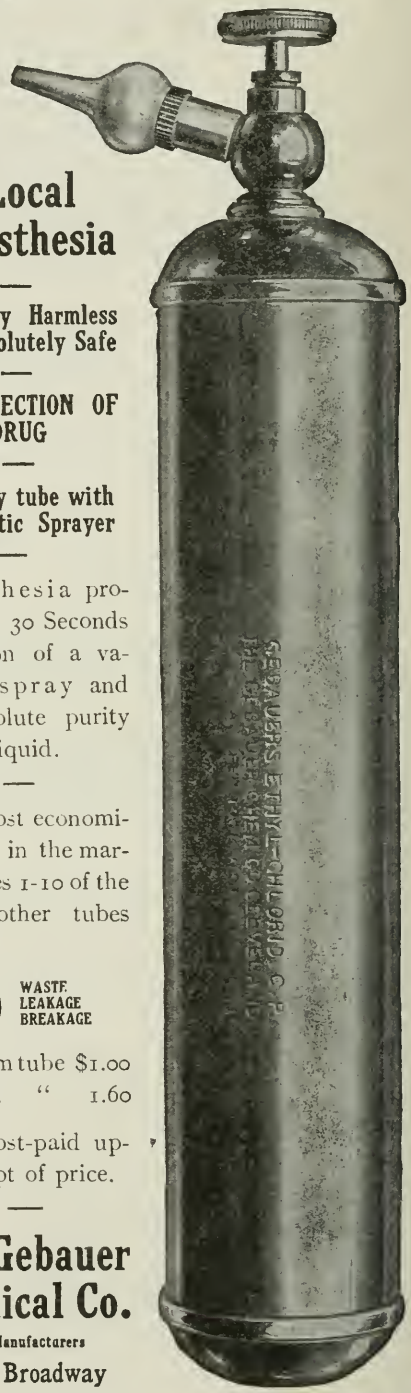

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40 Gram tube $1.00
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AN IDEAL REMEDY

Neutralizes the Acid Fermentation of the Contents of the INTESTINAL TRACT,

promoting healthy action and secretion

Think of **ALKARHEIN** and prescribe it in—

Acid Dyspepsias, Infantile Colic, Cholera Morbus,
Flatulent Colic, Cholera Infantum Diarrhea,
and all abnormal acid conditions of the Alimentary Tract

COMPOSITION—With Physiologial Action

Rhubarb 2 1-2 grains	A superior laxative because it does not impair, but improves the digestion—is a tonic, also astringent.
Golden Seal 1 1-4 grains	(With the acrid resin removed)—the great tonic and corrector of the mucous surfaces.
Sodium Bicarbonate 2 1-2 grains	Antacid. Increases Alkalinity of the blood and the oxidation and excretion of effete matters.
Pancreatin 1 grain	Promotes intestinal digestion, converts starch into sugar and dextrose; proteids into peptones; emulsifies fats, digests the casein of milk. In the presence of an alkaline solvent, the action of Pancreatin is largely increased.
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Spirit of Pepperment and a minimum of Simple Elixir is a menstruum that will commend itself to physicians.

Send for our booklets upon **Indigestion** and **Catarrhal Conditions.** They are sent postpaid to physicians upon application.

IMPORTANT

Sugar is contra-indicated in the treatment of digestive disturbances in which fermentative conditions play an important part—hence, we have corrected in this remedy the chemical and physiological errors so prominent in like preparations on the market.

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CINCINNATI

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THE SELECTION OF AN INFANT DIET

With the advent of the heated season the problem of the artificial feeding of infants takes on new proportions. From the vast amount of study that has been given to the proposition one fact stands out most prominently, and that is that normal mother's milk must be the standard by which all supplemental or substitute foods must be measured. In other words the digestive and assimilative capacity of the average infant is definitely established by the chemical character of the food on which it normally subsists. Extensive experiments and investigations have demonstrated that the milk of the human female presents fairly fixed amounts of the proteids (casein) carbohydrates (lactose) fats and other constituents. Indeed it is this fixed character of mother's milk that sometimes makes natural feeding temporarily at least, less desirable than an artificial but adjustable diet. Atmospheric conditions like great heat, or sickness, often weaken a baby's digestive capacity and produce conditions that are best corrected by varying the character of the food. That this cannot be done with human milk is obvious and this offers at least one reason why the artificial diet may sometimes be preferable.

There can be no question, however, that human milk is the natural food of infants and when available under favorable conditions will always take logical precedence over all other infant foods.

When not available, or conditions make breast feeding undesirable, recourse must be had to a substitute diet, and as previously stated mother's milk must be our standard. It is a source of no little satisfaction to many thousands of physicians that for a good many years the profession has had at its command a food of unlimited value for the substitute or supplemental feeding of infants. This food is Lactated Infant Food, a scientific product that embodies the highest ideals of purity, quality, uniformity and skillful preparation. As used, it more closely approximates human milk than any other food. It presents the almost identical nutrient and digestible properties with the added virtue of being readily and accurately adjustable to the needs of the most puny or the most robust infant.

Clinical experience presents the strongest evidence of worth, and countless physicians from one end of the country to the other have obtained results with Lactated Infant Food, that their judgment and good sense must tell them would otherwise have been impossible. The lives that this splendid food has saved, the desperate conditions it has speedily controlled, and the confidence that grows in the minds of those who use it most extensively account in part for the place Lactated Infant Food fills in the scientific, and what is vastly more important, successful feeding of infants. Many physicians who have been most opposed to artificial foods have been promptly converted through observing the action of Lactated Infant Food.

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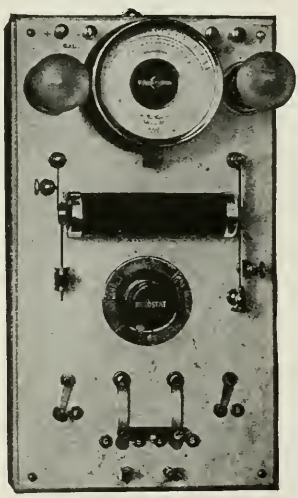
Fostoria, Ohio.

ELECTRO-THERAPY



Many a doctor with years of experience, when asked concerning his electrical equipment will use the expression, "Next to my wall plate, etc.," showing thereby in what high esteem the wall plate is being held as a means of affording relief. There are a hundred divers designs of wall plates all intended for the administration of a galvanic and faradic current, most of them arranged with a half dozen or more complicated switches, the manipulation of which alone requires profound study. Besides, the apparatus has been loaded with useless appliances not required. The wall plate here shown has all the necessary appliances for the administration of galvanic and faradic current and but one switch for obtaining the modalities, a long step toward much desired simplicity. The milliammeter is of the Deprez Carpentier type with two scales one in red reading 0-20, in one half milliampere divisions, and the other in black, reading 0-400 milliamperes, in five milliampere divisions. Readings on the red scale are obtained by removing the shunt plug with which the milliammeter is equipped. The faradic coil is equipped with both ribbon and pendulum vibrator, the first giving sedative effects, the latter for muscular treatment and massage. The primary faradic current obtained with the slow vibrator being unidirectional is well adapted for exciting contractile tissues. The rheostat is of the Gaiffe type capable of withstanding a current of 750 milliamperes and a temperature co-efficient which is nil. The rheostat is mounted in a circular form on back of the wall plate, only the dial graduated in volts, with the indicator and button being shown on the face. The frame is quarter-sawed oak, while the plate is white marble. The plate is also furnished in an oak case with polished beveled plate-glass door. The price of the plate as shown including cords, handles and disc electrodes is $30.00, or if enclosed in the quarter-sawed case with plate-glass door $40.00. If you have alternating current, order a rectifier with it.

Send for a copy of **"Electro-Therapy** in the Office Treatment of the Female Pelvic Organs" if you are interested.

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Every Advantage

The conscientious physician is continually on the lookout that every advantage may be given his patients — both as to the proper dietetic as well as therapeutic measures indicated.

A dietary, at once simple and requiring the least expenditure of digestive force on the part of the Invalid or Convalescent, is to be easily and conveniently found in grape-nuts and cream.

This food, made in the most sanitary manner of whole wheat and malted barley, offers the great advantage of being easily assimilated. It also contains **all** the food value of these two cereals, rich in carbohydrates, salts and proteids. The fat is conveniently regulated by gauging the quantity of cream.

Another advantage offered the patient by grape-nuts is that it is a perfectly sterile food — being baked in all from 12 to 16 hours, so that dry heat comes in direct contact with every particle, making it crisp and appetizing, as well as sterilizing it.

Grape-nuts being in the form of firm granules of nutty, neutral flavour, requires thorough mastication—another very important advantage to the patient. This induces **thorough** digestion and prompt absorption. It speedily begins its work of rebuilding tissue.

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"Mergal is superior to all other Hg. preparations that have hitherto been used internally, and in particular, on account of its safety and prompt effect; in these respects it scarcely yields to the inunction cure." Such is the judgment of Dr. Polland, of the University of Graz. (*Oestreich. Aerzte-Zeitung*, No.2, 1909.

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Samples and literature, upon request.

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Physicians will find BENGER'S FOOD a valued factor in their treatment of infantile diarrhoea and other intestinal catarrhs, gastritis, etc. Its use is indicated in all diseases which are due to impaired metabolism.

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Literature, Samples etc., on request.

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This measure of success has been largely due to the happy thought of securing a two-fold antiseptic effect in the one preparation, *i. e.*, the antiseptic effect of the ozoniferous oils and ethers, and that of the mild, non-irritating boric acid radical of Listerine.

Pharmacal elegance, strict uniformity in constituents and methods of manufacture, together with a certain superiority in the production of the most important volatile components, enable Listerine to easily excel all that legion of preparations said to be "something like Listerine."

"The Inhibitory Action of Listerine," a 208-page book, descriptive of the antiseptic, and indicating its utility in medical, surgical and dental practice, may be had upon application to the manufacturers, Lambert Pharmacal Company, Saint Louis, Missouri, but the best advertisement of Listerine is—

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The psychological factor can be used with marked advantage to the patient in the treatment of pulmonary tuberculosis. As the public generally knows, tuberculous patients almost invariably lose weight rapidly. Any preparation that will increase body weight will inspire the patient with confidence in his ultimate recovery and thus have a marked tendency to bring about that consummation. For this purpose we believe nothing is better than Oleomangan (Weightman), a preparation that almost invariably increases the weight of the patient from two to six pounds per week. Oleomangan is sold in sixteen-ounce bottles. Sample free to physicians on request. Weightman Pharmacal Co., New York City.

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The frequent renewal of auto tires is an item of great expense to doctors and the Excelsior Tire Co., 1779-1785 Broadway, New York, are making special rates on Diamond, Morgan and Wright, Continental and other makes, that is worthy of investigation, as it means a big saving. The special prices on various sizes are listed in the advertising pages of this issue. Look it up, it means money to you.

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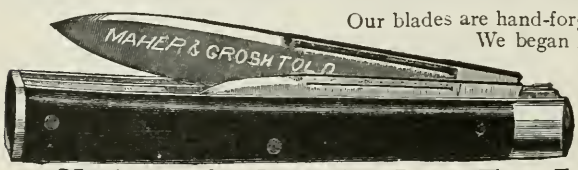
In all functional derangements of the nervous mechanism of the stomach, Gray's Glycerine Tonic Compound will be found of extraordinary therapeutic value. Its action is manifold, manifested by an immediate influence on the gastric tissues and a substantial promotion of the general nutrition. As the secretory and motor functions are improved, the patient's whole condition is correspondingly benefited.

1000 Doctors Have Tried Us So Far. - Why Don't You?



Our blades are hand-forged from Razor Steel; file tested and warranted. We began in 1877. This cut shows a very popular pattern for physicians; is exact size; ebony handle, price **75c postpaid.** Larger and longer knife, same pattern, ebony handle, $1.00; choicest pearl, $1.50. Send for 80 page price list and "How to Use a Razor."

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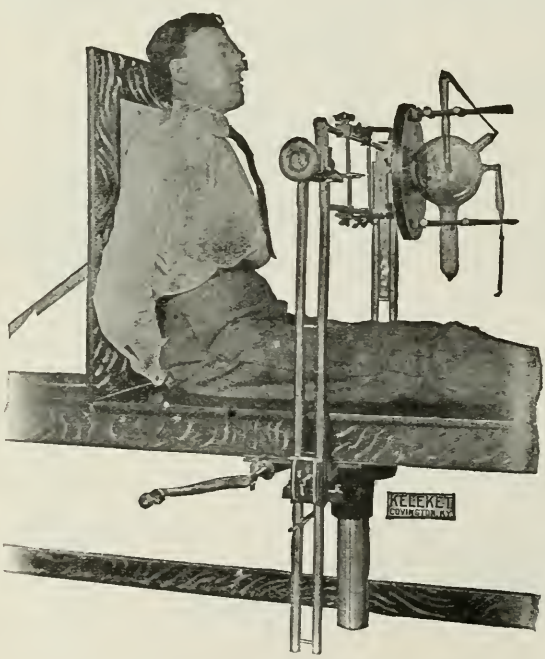

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in diagnosing and treating incipient Tuberculosis is of such vast importance that well-informed physicians will not do without it and thousands of other cases in which their use is indicated makes a Roentgen apparatus indispensable.

Our Grosse Flamme Coil has been so simplified and perfected and the cost of the same is so moderate that physicians of very moderate means can afford to avail themselves of this modern and scientific invention. **There is no other X-Ray apparatus regardless of size or cost that is more reliable or that can do better or quicker work.**

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Made in three (3) sizes, large, medium and small, and each size in the following medications:

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Samples and literature may be obtained from

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Contamination of Air in Public Buildings By Dust

Treatment of Floors the Logical Preventive.

THE AIR in public buildings, schools, stores, etc., usually contains a greater or less quantity of impurities. Such contaminations of the air may not only be injurious to the respiratory organs, but they can also become a positive menace to health, particularly as such dust is almost invariably polluted with the bacilli of dangerous diseases.

The actual presence of these germs of disease in dust constitutes one of the greatest dangers to mankind, for in time these germs will multiply and mingle with the dust circulating throughout the building. When the room is vacated and quiet restored the dust and germs settle on the floors. If the floor surface is dry, any slight movement or air-current would be sufficient to whirl the dust into the air again. On the other hand, proper treatment of the floor will hold all dust that settles on it and destroy all living germs.

Standard Floor Dressing is a preparation made for that particular purpose. It is the logical preventive of dust and the transmission of disease by dust. By keeping wood floors at just the right degree of moisture it catches and holds every particle of dust and every germ touching it.

This treatment of floors is not merely a precautionary measure for the prevention of disease, but is a distinct benefit to the floors themselves. Standard Floor Dressing has a peculiarly beneficial action on the wood, for floors treated with the dressing will last for many years longer than those untreated, and moreover the wood will not crack or splinter.

Then, again, because a dressed floor eliminates dust, the actual labor of sweeping and caretaking is materially reduced, and at the same time the cost. *Standard Floor Dressing is not intended for household use.*

To demonstrate that Standard Floor Dressing *will eliminate* dust and *kill* disease germs, we will treat the floor in any one room or corridor in any public building AT OUR OWN EXPENSE.

To localities far removed from our agencies, we will send free sample with full directions for applying.

We have a comprehensive book entitled "Dust and Its Dangers," which we will send gratis to all interested, together with testimonials and reports of those who have used and experimented with Standard Floor Dressing.

STANDARD OIL COMPANY
(INCORPORATED)

FRACTURE OF THE FEMUR

On the 10th of February, 1904, I was called to see Mrs. Mathilda B. Carse, an elderly lady, a prominent resident of this city and founder of the Woman's Temple of Chicago, who had met with an accident, and upon examination under anesthesia it was found that she had sustained a fracture of the right femur, through the trochanters. Consultation was called, my diagnosis was confirmed and a Buck's extension apparatus agreed upon. After several days' trial of this arrangement, however, I became convinced that this form of treatment was not suitable to the case. Mrs. Carse is a large woman, of athletic physique, who has always led an active life. To be confined to bed, therefore, and especially not to be able to move in the bed, was so depressing and irksome to her natrue that it added to her suffering and also very greatly to the prognosis of the case. In view of this, some other form of treatment was absolutely necessary.

The Ambulatory Pneumatic Splint was brought to my notice and I determined to give it a trial. I was more than pleased, after getting the splint adjusted, to find that the shortening had been overcome, and that the pain and discomfort was almost immediately relieved. We got her out of bed and stood her up on the floor. Then she was put back to bed and had great comfort in being moved about in bed. The splint was opened up at first twice a day, and later once a day, for massage, bathing and readjustment (the splint was not removed or taken off but merely unbuckled). At the end of the first week she was again taken out of bed and stood on her feet. This was repeated every week until, in the fourth week, she began walking every day. At first she only got up once a day; after a few days it was extended to twice a day. After the eighth week I removed the hip-joint immobilization attachment from the splint, after which she was able to get up with the aid of her nurse at any time she wanted to. The splint was dispensed with entirely at the end of the tenth week. Frequent measurements were taken and it was a source of very great satisfaction to know that no shortening or deformity had taken place.

During the daytime considerable traction was applied by simply adjusting the splint. This would be eased up at night, enabling her to rest comfortably. She made a journey to New York at the end of the twelfth week. At this time she was able to walk across the room without the crutches, but was not encouraged to do so. She used her crutches for a little time after this, but I do not know for exactly how long. She returned to the city in the Fall, walking straight as an arrow, without crutch, cane or a particle of limp. In view of the foregoing facts, I am very favorably impressed with the Ambulatory Pneumatic Splint. Its perfect adjustability is such that it has a wide field of usefulness and it gives more comfort to the patient than any other splint or method that I have used. J. F. Presnell, M. D., 100 State St., Chicago. Prof. of Surgery Illinois Medical College.

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I consider THE AMERICAN JOURNAL OF CLINICAL MEDICINE worth at least $25.00 per year to any general practitioner who will carefully study it and apply what he learns in his practice as he will improve his methods by so doing.

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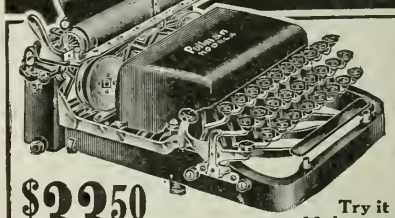

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One thing is certain, the physician who once prescribes Regulin and observes its action in some severe case of constipation will not soon shift his allegiance and return to other measures. The results are so promptly demonstrated and the effects are so salutary in every particular, that the wonder grows that the principles evolved by Schmidt were not discovered long ago. The idea of retaining adequate moisture throughout the fecal mass, is simplicity itself, but that it is the prime factor in overcoming the great majority of cases of constipation of functional origin, is shown at once by the unique action of Regulin. Of all modern remedies for constipation, Regulin is admittedly, therefore, the most rational, the most scientific, and best of all, the most permanently effective.

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Physicians interested in or contemplating the purchase of an automobile or motor cycle are requested to write for information to S. D. C., care of CLINICAL MEDICINE.

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A SUCCESSFUL TREATMENT FOR **DIABETES**

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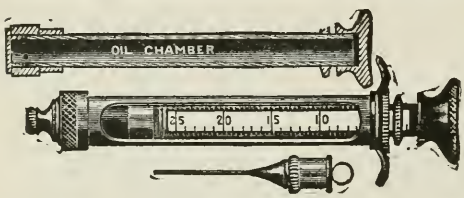

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In the toilet and nursery, especially in the hygienic care of infants or invalids with tender or irritated skin, PACKER'S TAR SOAP fills a place peculiarly its own.

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Some form of support is a necessity in ninety per cent of the cases of Spinal Curvature, Pott's Disease, etc. These supports have usually been made of rigid, hard, unyielding material, which, while perhaps supplying the required support have other undesirable features, making the remedy almost as bad as the disease. Restricted respiration and heart action, hindrance to growth and development, muscular atrophy, scalded skin, etc., are some of the minor ills that accompany the wearing of jackets made of Plaster of Paris, Sole Leather, Steel, etc.

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This Sheldon Appliance is humane, cool and comfortable. It does not chafe or irritate even in the hottest weather. It provides just the required support, exerting a gentle, firm pressure where needed, yet permitting full respiration and proper muscular action. It lifts the weight of the head and shoulders off of the spine and corrects any deflection of the vertebrae. It weighs ounces where other spinal supports weigh pounds.

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Dr. Downs' article on the use of unguentine in a burn from steam calls to mind two cases in which I received the best of results by the use of the same article. My first experience with it was treating a wound caused by an operation for removal of a fatty tumor over the right shoulder-blade in a lady that was to a degree scrofulous. The surgeon made his incision perpendicularly over the tumor, the consequence being an impossibility to hold the parts together, the least motion causing a tearing loose. She was two years trying first one physician, then another, and from one school to another. Finally she wrote me asking me to meet her and go with her to some surgeon in Chicago. I made her the proposition that she allow me to treat the wound three weeks. If I did no good she should have her treatment for nothing, including board at my home; if I cured her, she was to pay me the same fee she had others. I accordingly applied unguentine, changing night and morning. Result, a perfect healing by granulation in two weeks, and no eschar.

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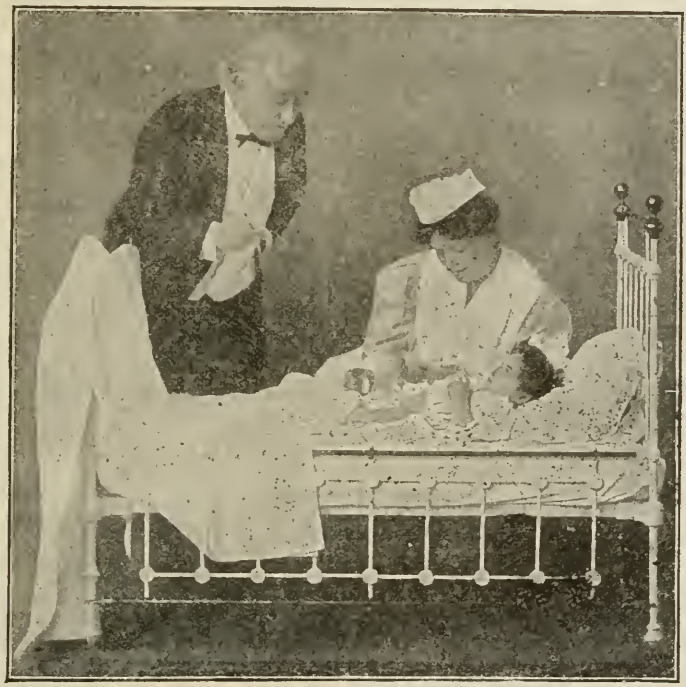

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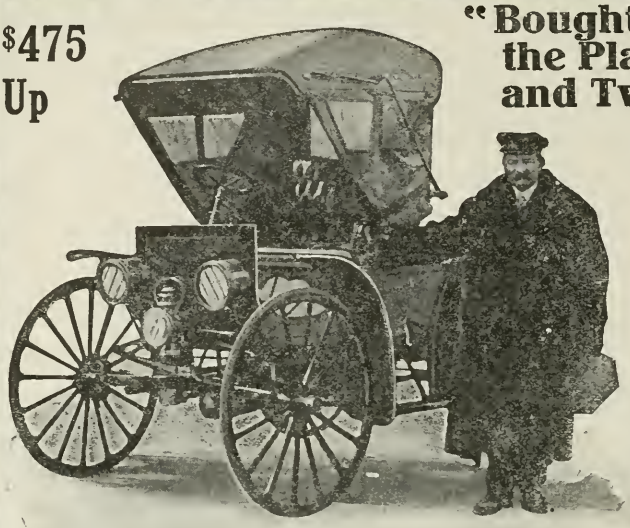

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32x3½	16.00	4.00
32x4	19.00	5.50
34x3	9.25	3.50
34x3½	16.00	4.25
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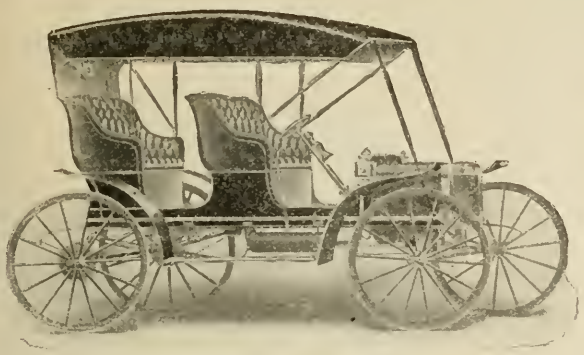

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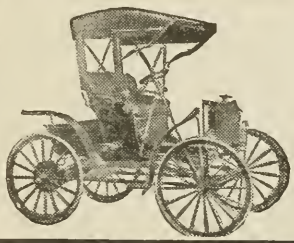

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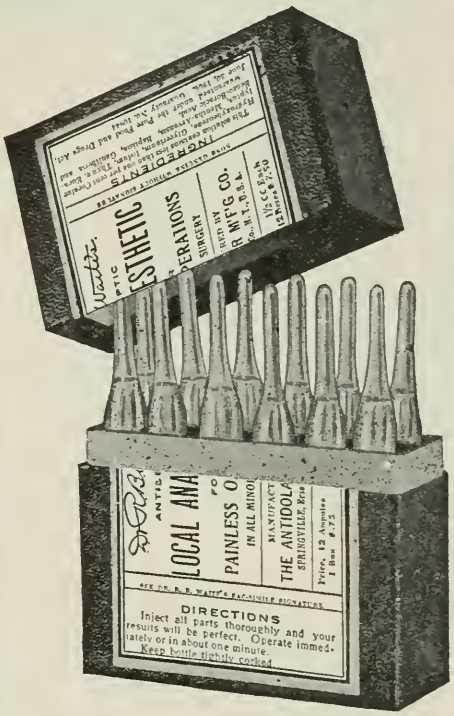

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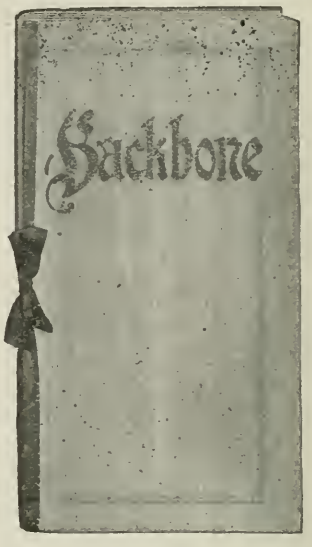

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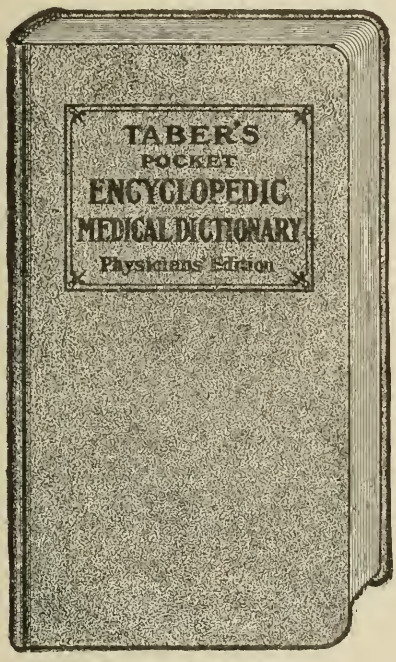

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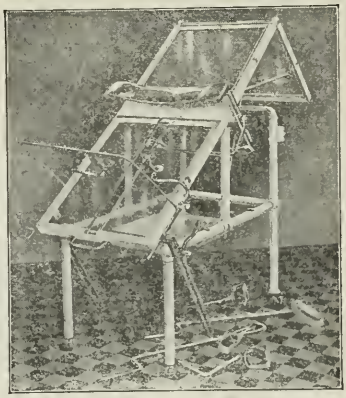

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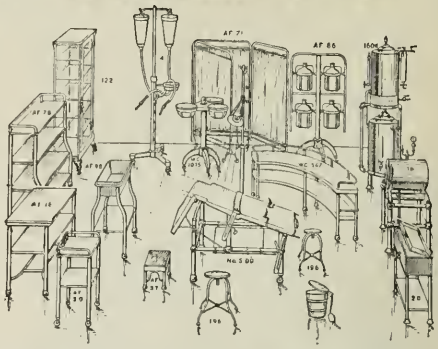

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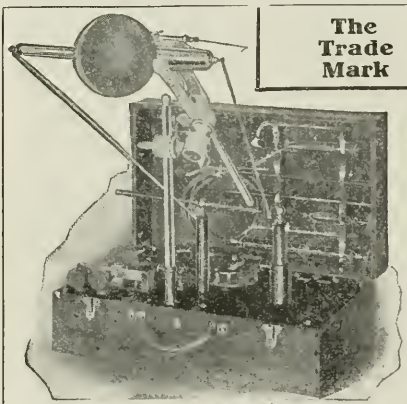

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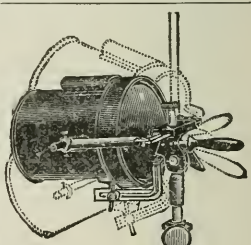

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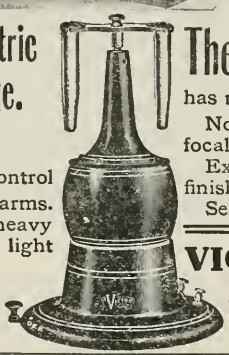

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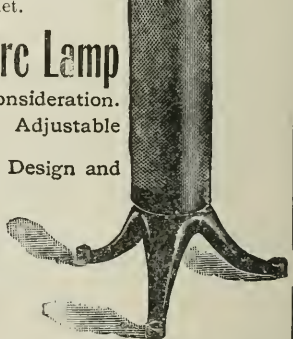

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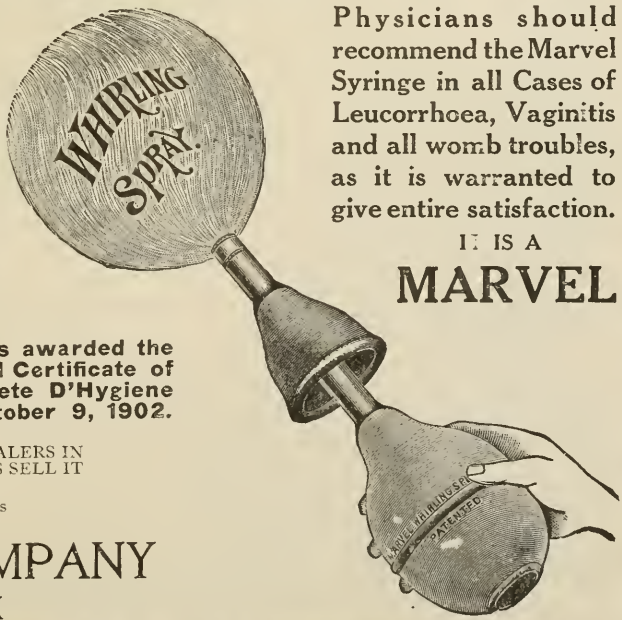

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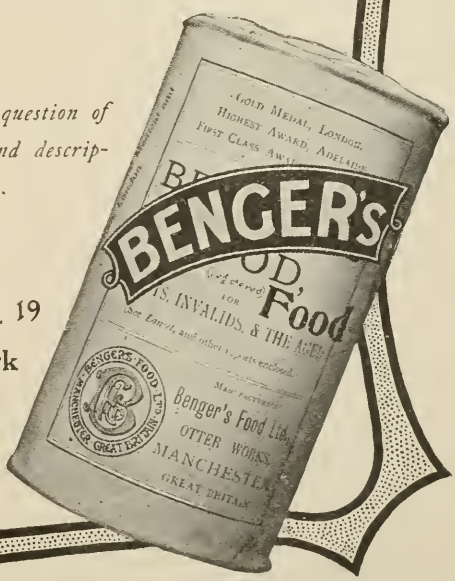

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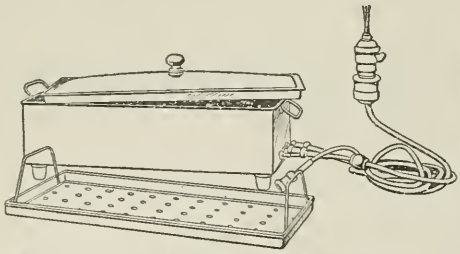

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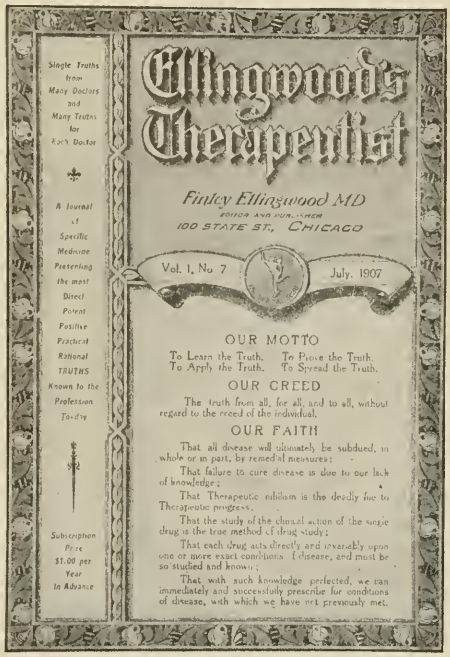
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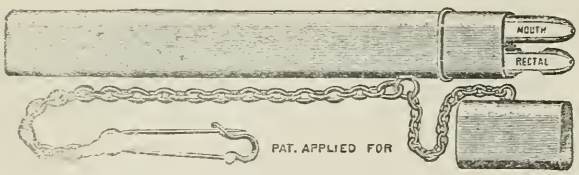

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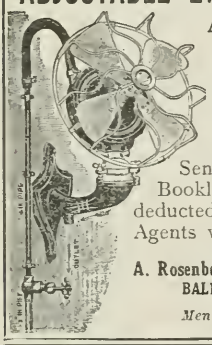

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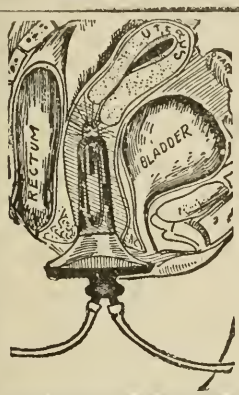

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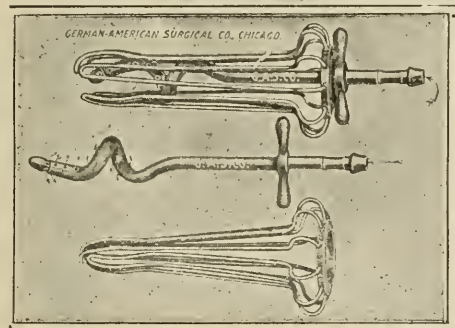

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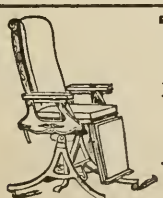

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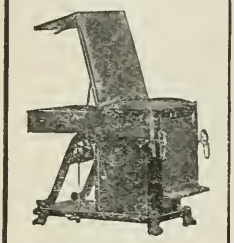

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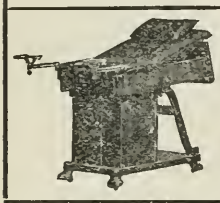

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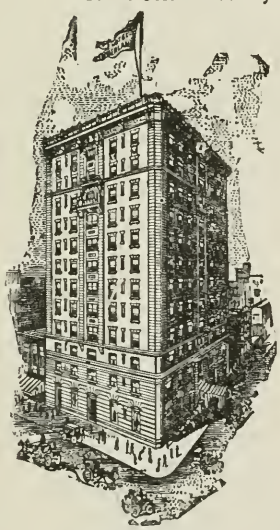

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